Can Air Conditioned Schools Be Cheaper? .. Pg. 2

AIR CONDITIONING HEATING & REFRIGERATION NEWS
The Newspaper of the Industry
RESIDENTIAL — COMMERCIAL — INDUSTRIAL
May 23, 1960
Issued every Monday at 450 West Fort St., Detroit 26, Michigan
Established 1926
Member, Associated Business Publications — Member, Audit Bureau of Circulations
Vol. 90, No. 4, Serial No. 1,626
Reentered as second class matter October 3, 1936, at the post office at Detroit, Mich., under the Act of March 3, 1879.
Subscription Price, $6 Per Year (U. S. and Canada). Foreign: $10.00 Per Year.
Trade Mark Registered U.S. Patent Office. Copyright 1960, by Business News Publishing Co.

✓ INSIDE THIS ISSUE

CIRCULAR SHOPPING CENTER viewed as 'most fantastic shopping tool.' Air doors and refrigerated package delivery systems would be features.... 8

ARE AIR CONDITIONED SCHOOLS CHEAPER? Two identical facilities are being built to test theory scientifically... 2

ELECTRIC HEAT requires automatic control of humidity and ventilation, for 'deluxe' comfort, Luscombe indicates 13

TRAINING SALESMEN—NWAHACA symposium speakers answer questions from the audience 16

COMMERCIAL REFRIGERATION SECTION — Soft ice cream dispensers, cold storage doors, bulk milk tank sales, and meat discoloration are topics discussed in Commercial Refrigeration Section 22-26

THERMOELECTRIC SPACE REFRIGERATOR—Small, compact unit tested in simulated space flight 7

TECH CENTER reviews S. A. Andersen's book entitled Automatic Refrigeration 28

EDITORIAL 14

OFF THE CHEST 15

WORLD TRADE NEWS.....18

WHAT'S NEW 20

PATENTS 31

Lau Blower Acquires Viking Air

Puts Dayton Firm Actively Into Heating Accessories

DAYTON — Lau Blower Co. announced that it has purchased the assets of Crane Co.'s Viking Air Products division for an undisclosed amount.

T. I. Byrd, Lau president, said the purchase included tools, dies, jigs, finished and unfinished inventory, and assumption of the lease on Viking's 146,000-sq. ft. Cleveland plant.

"This purchase will expand our product lines, provide additional manufacturing capacity, and increase our sales and distribution organization," Byrd stated. "We will now have the products and people to actively solicit heating wholesale business."

Viking makes home humidifiers, the "Jet-Flo" booster for ducted air systems, and has developed a "long life" filter for furnaces. "All of this fits nicely into our existing line of products, along with our window and attic fans, central ventilating units, kitchen range hoods,

(Continued on Page 29, Col. 4)

NAPC Brochure Sparks Hassle With AGC

WASHINGTON, D. C. — A brochure published recently by the National Association of Plumbing Contractors on "Efficiency and Economy With Separate Mechanical Contracts" has sparked a hassle between the NAPC and the Associated General Contractors.

The NAPC has issued a report on the battle in the form of a press release headed: NAPC Fiddles Happily While AGC

(Continued on Back Page, Col. 1)

MCAA Study Shows Operating Figures

NEW YORK CITY—Mechanical contractors reporting in a statistical survey of their operations conducted by Mechanical Contractors Association of America turned up the following significant facts about their average "operating" figures, a report given at the recent MCAA convention here reveals:

The average net profit of the mechanical contractor has continued to shrink (the average for corporations in the business declining to 2.29% of gross business before taxes in 1959 from 2.56% in 1958, the figure for individuals and partnerships being 4.99% in 1959 compared with 5.42% in 1958). When these figures were read, some of the individual contractors in the audience muttered "shameful" and "ridiculous."

Percentage of the mechanical contractor's sales made in air conditioning work continues to increase, and is by a considerable margin the largest part of his business, it was revealed in the statistical survey report, made by Anthony L. Cherne.

For contractors operating as individual owners or partnerships in 1959 it accounted for, on the average, 47.33% of the total business as compared with 43.46% in 1958. Plumbing was

(Continued on Page 30, Col. 1)

Proposed Code Provisions Fought In 2 Georgia Cities

By C. Dale Mericle

Jurisdictional Dispute Plagues Gainesville

GAINESVILLE, Ga. — Jurisdictional conflicts over proposed requirements for room air conditioners, water heaters, and similar appliances are delaying revision of local electrical and plumbing codes and postponing adoption of this city's first code covering heating, ventilating, and air conditioning.

Some appliance dealers, headed by Conrad Romberg of City Ice Co., feel they "are being shorn of privileges which have traditionally been associated with the appliance industry."

The proposed codes, as they stand written in mid-May, would require:

1. Room air conditioners and other types of air conditioning and refrigeration equipment of 1 hp. and above be subject to code requirements.

2. All wiring to be done by licensed electricians.

3. All plumbing to be done by licensed plumbers.

This would mean, Romberg

(Continued on Page 29, Col. 1)

Atlanta Dealers Oppose Daily Installation List

ATLANTA — Several provisions of a proposed new plumbing code here, and the way it was introduced, were attacked strongly from various quarters at an open hearing held at the city hall here Tuesday, May 17.

Another hearing is scheduled for May 24, and final action is to be taken May 31.

Appliance dealers were aroused by the proposed code, especially the provision that they be required to supply the city plumbing inspector a daily list of names and addresses of purchasers of such devices as garbage disposers, water heaters, and washers connected to plumbing lines.

"Gestapo tactics" was how one retailer described this requirement.

Proposed requirement that only licensed plumbers be allowed to install and service such appliances was also objected to by appliance dealers, as well as home builders and an apartment house owner.

(Continued on Page 29, Col. 3)

30-Day Forecast—Above, Near Normal 7-Day Prediction Is on 'Wet' Side

WASHINGTON, D. C.—Temperatures are expected to average above normal over the northeastern quarter of the nation and also in the extreme southwest through the middle of June, according to the 30-day U. S. Weather Bureau forecast.

Below normal temperatures are expected along the Gulf Coast and over the southeast, as well as in the Western Plateau States and the Pacific Northwest. However, near normal temperatures are predicted for the rest of the country.

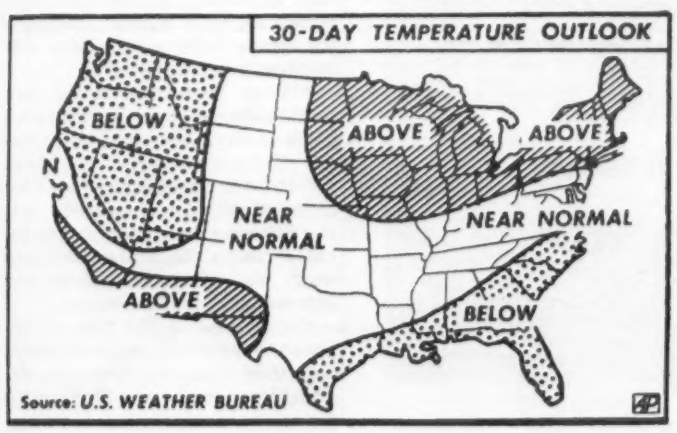
* * *

NEW YORK CITY—Weather for the week of May 23 will be "showery" in many parts of the U.S., with high humidities developing in the central south and southeast, and quite warm conditions developing over the western plains states and the southwest.

That's the prediction made by the Irving P. Krick Associates, weather analysts, in the NBC Monitor radio broadcasts made over the weekend under the sponsorship of Fedders Corp.

Weather fronts are likely to

(Continued on Page 29, Col. 5)



Starnes Named Mathes President

MARBLE FALLS, Texas — Benjamin R. Ebersman, president of The Mathes Co., announced the promotion of Robert B. Starnes as his successor to the presidency of the Glen Alden Corp. division.

R. B. Starnes

Other Mathes promotions and appointments are: Claude Birdsell, sales manager; Sam A.

(Continued on Page 4, Col. 5)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Let's Not Fight It, Boys

Leap year no longer is titillating to us old bucks, but it does remind us that being a man is in a bullish trend.

Maleness now is an asset instead of a liability.

Reason for this turn of events:

Men are getting scarcer, like bank credit. The Census Bureau reports that there are now only 96½ men for every 100 women.

Seems that the female of the species is not only deadlier, but healthier than the male. The masculine mortality rate is somewhat higher for two apparent reasons:

(1) Overwork; (2) jealous females.

Odd thing about the latter. Instead of bumping off their rivals, they eliminate the men in their lives.

Anyway, men definitely are in a "seller's market." Chief sources of demand are (a) women (2) businesses (c) the armed services.

Competition is keen in all three categories. As a result, men are becoming more choosey, not only as potential husbands but as job holders.

Job applicants will grant you an interview only if you assure them of (1) high pay (2) short hours (3) long vacations (4) early retirement (5) an air conditioned office and (6) a secretary that looks like Marilyn Monroe.

Soon they may even insist that you also hire Marilyn (or an equivalent) in the, er, flesh.

Primarily a Salesman

It is sometimes overlooked that salesmanship . . . no less than engineering and scientific genius . . . has been responsible for America's amazing commercial progress.

Thomas A. Edison, founder of the electrical industry, was a salesman before he became an inventor. And throughout his remarkable career he displayed an extraordinary instinct for selling.

Edison was no mere abstractionist and tinkerer.

(Continued on Page 6, Col. 1)

Are Air Conditioned Schools Cheaper?

Two Identical Facilities Will Be Constructed In Pinellas County, Fla. To Test Theory Scientifically

LOUISVILLE, Ky.—The first stage has been completed in a unique demonstration proving that new, fully air conditioned schools can be built at a cost no greater—and probably even less than—non-air conditioned schools, according to a report by American Air Filter Co., Inc.

The experiment, in Pinellas County, Fla., "promises to have far-reaching effects on school design all over the country," the report said.

"Elsewhere in the U. S., more than 200 fully air conditioned public schools have been completed, and in many cases architects and educational officials have reported that they seem to cost no more than non-air conditioned buildings, when designed for air conditioning at the outset. But this, in the nature of things, has remained a matter of opinion."

"Pinellas County is now actually building two such comparison schools — schools designed to identical educational specifications down to the last detail, by different architects, each striving to produce the maximum in educational value per building dollar," it was pointed out.

"As impartial referees, officials of the Pinellas County Board of Public Instruction made sure in advance of bidding on the two jobs that there were no significant differences between them not directly attributable to, and practicable only with, year-round air conditioning.

"The Pinellas Park Junior High school, designed by Architect Charles L. Colwell, A.I.A., is an attractive functional school designed in accordance with regular Florida practice. It is a cluster plan for maximum breeze cooling and is being built without air conditioning.

"The base bid for this school, received last November (less the cost of a sewage lift station not included in the base bid for the comparison school) was $584,749. On the basis of nominal area, as figured by the Florida State Board of Education, this works out to a cost per sq. ft. of $8.80—or somewhat below the average for schools in the St. Petersburg area.

Bid for Air Conditioned School $1,849 Less

The Oak Grove Junior High school, designed by architects Bruce and Parrish, with the assistance of technical consultant Henry Wright of New York City, employs a more compact scheme made possible by air conditioning. Healy & Latimer, St. Petersburg, served as consulting mechanical engineer to the architects on both projects.

"The base bid for the Oak Grove school, received April 13, was $582,900. This was $1,849 less than the corresponding figure for the non-air conditioned school.

"(The possibility that the difference was due to the time-lapse between the bids was precluded by a small, but definite *increase* in the construction cost index during the interim.) This meant that Pinellas County is to get somewhat less gross area (66,175) as compared with (66,468) sq. ft., for somewhat more per sq. ft. ($8.89) instead of ($8.80), but at a lower cost over-all.

Educational Space Virtually Identical

"Educational space in the two schools is virtually identical, being 49,159 sq. ft. in the air conditioned Oak Grove school, and 47,880 sq. ft. in the non-air conditioned Pinellas Park buildings.

"Each of the schools will contain 16 academic classrooms, a large home-making suite, vocational training shops and drafting room, a teaching auditorium, library, cafeteria, gymnasium, and offices.

"In both, construction is concrete block with brick facing, one story in height. Roof construction in the Pinellas Park school is pre-cast concrete while that in the Oak Grove school employs steel joists and gypsum decking. Classrooms at Pinellas Park have plastic-dome skylights; those at Oak Grove will rely entirely on electric lighting.

"In the Pinellas Park school, classrooms are nearly square and have windows on two sides or exhaust fans to meet Florida State regulations regarding breeze cooling. Separate classroom and other buildings are connected by covered, open air walks employing a concrete 'bent' structure. Heating is by residential-type gas-fired furnaces, serving adjoining classrooms.

Corridor Lengths Cut In Cooled School

"In the Oak Grove school, classrooms are rectangular, with the narrower dimension abutting on the corridor—cutting down on corridor length and reducing the distance which students must travel to different parts of the school. Window sills are high, since windows are not relied upon for ventilation cooling, and have lockers beneath, facing the corridors.

"Winter heating and thermostatically-controlled ventilation, together with summer air conditioning, are provided by air conditioning unit ventilators located on the inside walls, where the adjoining classrooms are separated by a continuous space for pipes, wiring, and for admitting ventilation air.

"These unit ventilators are manufactured by the Herman Nelson Div. of the American Air Filter Co., Inc. A gas-fired boiler and natural-gas-fuel, internal-combustion-powered air conditioning compressors are located in a separate building near the cafeteria kitchen and gymnasium shower rooms."

Classrooms in the Oak Grove school face 16 ft. wide covered corridors open to the outside. Corridors are provided with

IN TUBING— Nothing Beats Copper!

IN COPPER— Nothing Beats READING!

READING COPPER · BRASS TUBE

And RED BRASS PIPE

READING Tube Corporation

* Wholly Owned Subsidiaries
READING METALS REFINING CORP.
Ontelaunee Twp., Berks Co., Pa.
READI-FIN MFG. CO., Inc., Reading, Pa.
MACKENZIE WALTON CORP., Pawtucket, R. I.

Completely Integrated Quality Control from Our Own Refinery to Our Own Distribution Depots

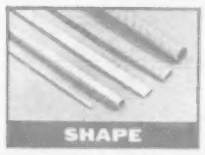
For SMALL, SEAMLESS PRECISION COPPER TUBE

Specify MACKENZIE WALTON

Product of MACKENZIE WALTON CORP.*

Ideal for
- Instrumentation
- Bourdon Gauge
- Air Conditioning
- Surgical Instruments
- Refrigeration
- Thermostatics
- Automotive
- Band Instruments

Featuring
- Copper and Copper Base Alloys
- Famous for Accurate and Fine Finish



Send for Detailed MACKENZIE WALTON CATALOG of Small Tubing

For COPPER WATER TUBE Specify READING "LEKTRONEAL"®

For COPPER REFRIGERATION TUBE Specify READING "LEKTROSEAL"®

For COMMERCIAL COPPER TUBE (in Varied Shapes) RED BRASS & COPPER PIPE, THREADLESS COPPER PIPE, COPPER DRAINAGE TUBE Specify READING

For FINNED COPPER TUBE Specify READI-FIN®

Product of READI-FIN MFG. CO., INC.*

READING Tube Corporation

EMPIRE STATE BUILDING, NEW YORK 1, N. Y. • PLANT: READING, PA.

Distribution Depots:

READING, PA. • WOODSIDE, L. I., N. Y., 57-17 Northern Blvd.
PHILADELPHIA, PA., 921 No. Penn St.
ATLANTA, GA., 690 Murphy Ave. S.W., Unit 5, Bldg. B
NEW ORLEANS, LA., 1102 St. Thomas St. • CHICAGO, ILL., 305 W. 31st St.
CLEVELAND, OHIO, 1562 E. 55th St. • DENVER, COLO., 2635 Walnut St.
DALLAS, TEXAS, 9000 Sovereign Row • HOUSTON, TEXAS, 1121 Rothwell St.
LOS ANGELES, CALIF., 120 No. Santa Fe Ave. • OAKLAND, CALIF., 410 Hegenberger Rd.

Sold Through Wholesalers Only

plastic skylights to give an outdoor effect from within the rooms.

Similarly, the 22-ft.-wide mall connecting the various parts of the school has skylights and an open "slot" resulting from a stepdown in the roof, to add to the outdoor feeling. Corridors and student toilet rooms are neither heated nor cooled.

Important as this is, Pinellas County is not building otherwise identical air conditioned and non-air conditioned schools simply to establish the fact that air conditioning can be had at no extra cost, and even at a saving, it was pointed out.

Schools To Be Studied for Factors Other Than Cost

School Superintendent Floyd T. Christian has other research goals. These include a comparison of the two schools on the basis of:

1. *Operating expenses,* including the cost of operating the air conditioning equipment, less savings due to reduced cleaning, and other maintenance costs
2. *Attendance,* plus any other evidence of the effects of air conditioning on the health and morale of students and teachers
3. *Increased use of school facilities,* including nighttime and summertime usage, community functions, and use for adult education.
4. *Educational effectiveness,* evaluation of which is to be the objective of an ambitious study employing the already extensive facilities of the Pinellas County Board of Public Instruction, and for which a grant has been requested from the U. S. Department of Health, Education, and Welfare.

"Obviously," the report continued, "studies of this kind will be immensely helpful since they cover two schools of similar size and type in the same climate area (within a few miles of one another), and operated as parts of the same school system. And, as with the comparison in construction cost, results will be made much more convincing by the fact that both air conditioned and non-air conditioned schools are involved, and any comparisons made need not rely on estimates.

"When various alternates involved in the bidding are taken into account, the comparison becomes more complicated, but remains favorable to air conditioning.

Cost Factor May Be More Favorable When Rooms Have Been Added

"Since the boiler and piping at Oak Grove are sized for the ultimate 32 classrooms, and there is a good chance that the air conditioning compressors being installed in the first stage of construction will prove adequate for another eight classrooms, it is more than likely that the cost comparison between the schools will be even more favorable after the additional rooms have been built in both cases.

"At Pinellas Park, almost no preparations for heating the additional space were required by the type of system used. Most of the Oak Grove construction cost savings were in the classroom portion of the building, and will be repeated when additional classrooms are added.

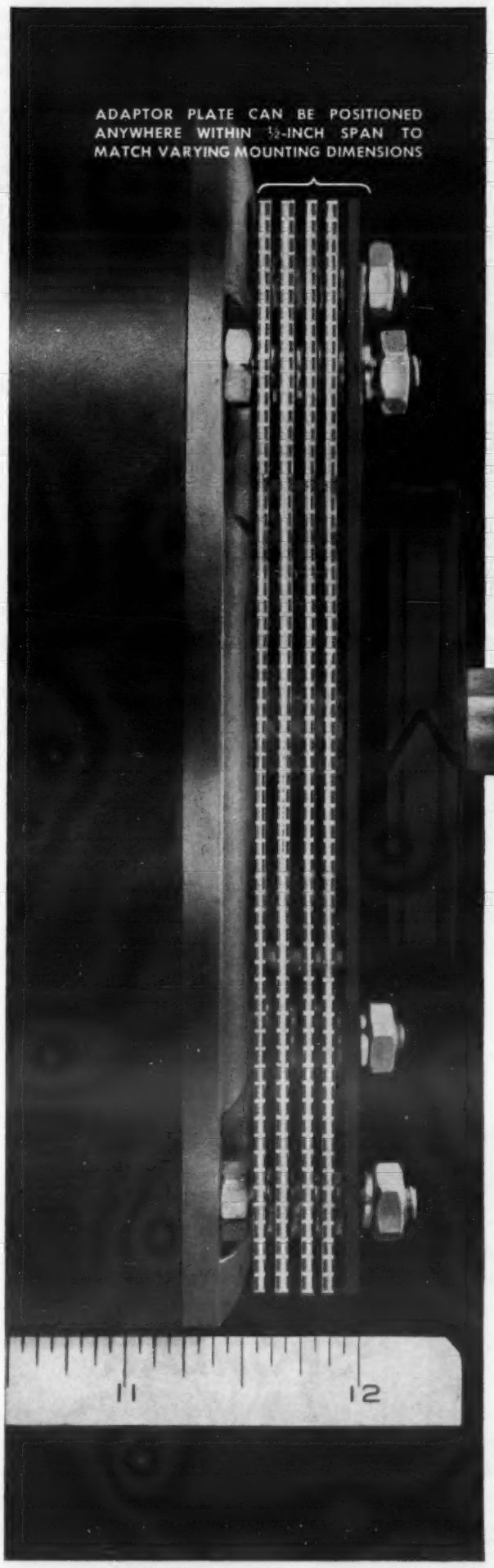
"Taking these things into account, it seems probable that the ultimate air conditioned school will turn out to be considerably cheaper than its non-air conditioned counterpart; in any event, this will not remain in doubt for long, since the additions are likely to be made within a year or so, in both cases.

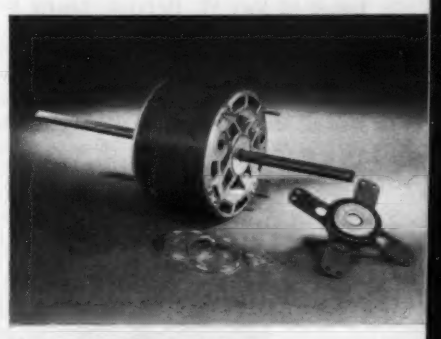
"This is all the more remarkable in view of the fact that the cost for heating and ventilating equipment in the non-air conditioned school was very low. As shown by the contractor's cost breakdown supplied to the School Board as a basis for periodic payments, it was only $0.67 per sq. ft., or only a little more than one-half the national average.

"This seems to clinch the argument for air conditioned schools: If they can be built for less in Florida, where heating costs are low and air conditioning costs may be assumed to be somewhat higher than elsewhere, then certainly air conditioned schools can be built for less than non-air conditioned schools in other parts of the U. S., where these factors are reversed.

"Expressed in cost per sq. ft., the designers of the Oak Grove school had to 'make up' for a difference between about $1.60 for year-round air conditioning, and $0.67 for heating alone. This difference of $0.93 compares with a probable average difference of $0.70 in parts of the country where the normally-used heating and ventilating system is more complete. This they succeeded in doing."

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

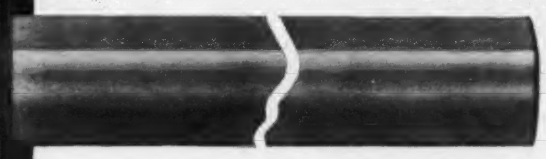




New motor with adaptor rings, mounting adaptor.

HERE'S A FAN MOTOR THAT

CHANGES SIZE!



Stock this new General Electric fan motor—solve most air conditioner replacement problems

Now, by stocking this versatile motor—available in shaded-pole or permanent split-capacitor designs—you can replace practically any 5½-inch diameter fan motor on today's room air conditioners.

As a result of the trend to thinner room air conditioning units over the past several years, you're being called on to replace motors of many different lengths. You can match almost all of these varying mounting dimensions by simply adjusting the position of the specially designed mounting adaptor along the motor's extended through bolts. And, of course, you can remove the adaptor entirely for band or through-bolt mounting.

Special ring adaptors offer you still further mounting versatility. You can snap them around the 2¼-inch cushion rings to meet 2½-inch ring requirements.

Extra-long shaft extensions, with extra-long "flats," are standard on this new motor. You can cut the shafts to any length, or to single shaft requirements. A gun-metal-like treatment protects the shaft against corrosion and provides for easy removal of fans in years to come.

Available in ratings from 1/15 to 1/4 horsepower, this new replacement motor gives you the same General Electric quality designed and built into every Form G motor—outstanding moisture resistance, top-notch insulation, and long lubrication life. Call your nearest General Electric distributor or your G-E Apparatus Sales Office about this new replacement fan motor today. General Electric Co., Schenectady 5, New York. 738-09

Progress Is Our Most Important Product

GENERAL ELECTRIC

To Dedicate Ray W. Herrick Lab at Purdue June 3; Plan Inspection Tours

LAFAYETTE, Ind.—The Ray W. Herrick Laboratories, Purdue university's center for research in refrigeration and climate control, will be dedicated here June 3.

A number of leaders in the air conditioning and refrigeration industry have been invited to attend the ceremonies.

The laboratory, named in honor of Ray W. Herrick, board chairman of Tecumseh Products Co., is a gift from the Herrick Foundation, Herrick himself, Tecumseh Products Co., Revco, Inc., Addison Products Co., Westinghouse Electric Corp., The Trane Co., Carrier Corp., Frick Co., Sporlan Valve Co., Dole Valve Co., Acme Industries, Inc., Surface Combustion Div., Midland-Ross Corp., Worthington Corp., Minneapolis-Honeywell Regulator Co., Dunham-Bush, Inc., Johnson Service Co., Peerless Corp., "Freon" Products Div., E. I. du Pont de Nemours & Co., Inc., McMillan Feed Mills, Ralston Purina, and Quaker Oats Co.

Guided tours through the laboratory are planned for both morning and afternoon.

At 2 p.m., visitors will hear Prof. Jack Chaddock of the mechanical engineering staff discuss "The Relation between Heat and Mass Transfer in Air Conditioning Processes," and Prof. Fred Andrews, newly-named head of Purdue's dairy department, talk on "The Role of Climatic Environment on Physiological Performance of Man and Animals."

Prof. William E. Fontaine, co-director of the Herrick Laboratories, will preside at the program.

After dinner, Purdue President Frederick L. Hovde will introduce distinguished guests. Then Walter Scholer, architect who designed the building, will formally present the structure to the university. President Hovde will accept.

Dr. R. B. Stewart, vice president and treasurer in charge of Purdue's huge development program, will be principal speaker of the evening.

Prof. Fontaine commented that the laboratories are already in operation.

"We are doing basic research in heat transfer, mass transfer, thermodynamics, and fluid mechanics, all directed toward solution of problems in refrigeration and air conditioning."

Judge Halts Proxy Solicitations by Both Sides In Crane-Briggs Row

(See Earlier Story on Page 28)

DETROIT — Federal Judge Theodore Levin last week took under advisement a ruling on the request of Briggs Mfg. Co. for a temporary injunction barring Crane Co. from further stock activities.

However, Judge Levin ordered an immediate cessation of proxy solicitations by both parties pending the ruling.

Briggs was seeking the injunction in connection with its million-dollar damage suit against Crane. Briggs claimed it suffered damages because of Crane statements in the course of its purchase of 231,674 shares of Briggs stock.

In another development, the Federal Trade Commission requested Judge Levin to grant it leave to file a brief as *amicus curiae* in the suit. This is the first time that the FTC has intervened as *amicus curiae* in a private treble damage action.

Earlier, on March 18, the FTC issued a complaint against Crane alleging that its acquisitions of Briggs' stock and the stock or assets of four other corporations violate both the Clayton and FTC Acts.

Briggs has asked the U. S. District Court here for a preliminary injunction restraining Crane from voting its Briggs' stock at that company's annual meeting next month. The FTC requested leave to file a brief as *amicus* on this motion in order to present its views on the importance of maintaining the status quo in the industry pending disposition of the commission's complaint, the agency explained.

SPORLAN

FAMOUS FIRSTS

...Thermostatic Expansion Valves

1934 Selective Charges

1934 Replaceable Power Element

1934 Replaceable Parts

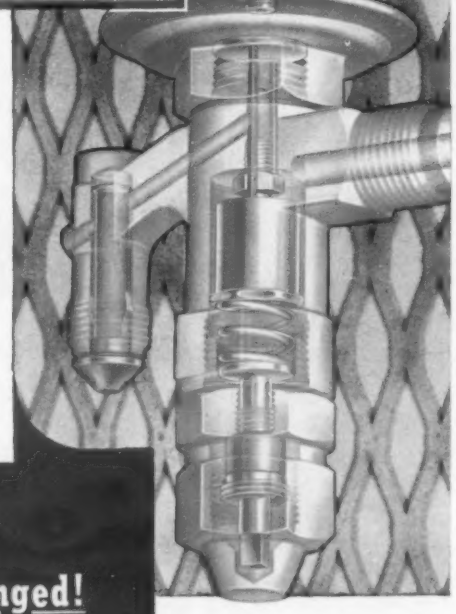
1934 Solder Flange Bushings

1935 Flat Welded Diaphragm

1948 Flow Master Element

1951 Level Master Control

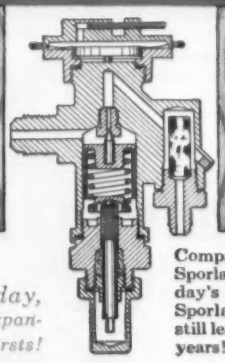
Modifications will always be made, but only to improve the product . . . . never to change it!



Basic in design . . .

Constantly Improved . . . but never changed!

Send for Bulletin 10-10 today, then order Sporlan Thermostatic Expansion Valves with all these famous firsts!



Compare this original Sporlan design with today's phantom above. Sporlan's basic design still leads after all these years!

SPORLAN VALVE COMPANY

7525 SUSSEX AVE. ST. LOUIS 17, MO.

Export Dept. 85 Broad St., New York 4, N.Y.

Mathes President--

(Continued from Page 1, Col. 3)

Chambers, assistant to the sales manager.

Albert A. List, chairman of the board of Glen Alden, stated that the promotions will take effect June 1, 1960, and at that date Ebersman will return to New York City to continue his duties as a vice president of the parent company.

Ebersman plans to make periodic visits to Marble Falls to be present at Mathes staff meetings.

Dudley Layman, financial vice president, and Austin List, vice president, both of Glen Alden, will continue to act in advisory capacity to the new president.

Starnes, 41, Mathes' new president, has been connected with the Texas-located firm for a number of years, holding various positions beginning prior to the advent of the air conditioning equipment manufacturing phase there. He joined Mathes in 1947.

Starnes began his career at Mathes as territory salesman covering west Texas and New Mexico, selling fans, evaporative coolers, and furniture while headquartering in Abilene, Texas, for several years. He was later promoted to regional sales manager with responsibility for coverage of the Eastern Seaboard.

In 1957, Starnes returned to Texas to assume duties as assistant general sales manager, following which, in late 1958, he was appointed general sales manager with simultaneous election as vice president of The Mathes Div. of Glen Alden.

Claude Birdsell, 42, the new sales manager, is presently operating from Oklahoma City as district sales manager. He joined Mathes in March of 1959, leaving a successful sales career involving some 13 years' experience in Oklahoma in major appliance selling at sales management level with a national brand distributor.

Sam Chambers, 45, who now lives in Austin, Texas, and upon retiring from the U. S. Air Force will join Mathes June 1.

Coolerator Realigns Engineering Dept. Responsibilities

ALBION, Mich.—M. F. Beisber, president, Coolerator Div. of McGraw-Edison Co., announced the realignment of the Engineering Dept. responsibilities.

Charles J. Kayko, formerly vice president in charge of manufacturing, is now vice president of engineering and manufacturing.

His additional new duties include the direction of engineering policies, which were previously under the responsibility of Arthur Elwood Kline who, until his recent death, was vice president of engineering.

Specific engineering responsibilities for product development will be under the direction of two product chief engineers.

In this major realignment of engineering responsibilities, Wendell Webster will fill the newly-created position of chief engineer-air conditioning products. Webster has been with Coolerator and its predecessor companies for over ten years.

The development of dehumidifiers as well as room air conditioners, air purifiers, humidifiers, and central air conditioning products will be under Webster's direction.

Robert F. Knudson, who recently joined Coolerator as chief engineer-heating products, will now report directly to Kayko. He will be responsible for the direction of design and development for the new lines of electric heating products as well as gas and oil home heater product line.

Michie To Head Newly Formed Frick of Canada

WAYNESBORO, Pa. — Opening of a subsidiary of Frick Co. at Montreal, Canada, has been announced by W. H. Aubrey, Frick president.

J. R. Michie

This subsidiary will be known as Frick of Canada, Ltd., and will be in charge of John R. Michie. It is located at 2085 City Councillors St., Montreal 2, Que., and the telephone number is Victor 9-1146.

Opening of this new office is part of the expansion program being carried out by Frick Co.

The new subsidiary will cover chiefly eastern Canada, and will offer all types of Frick equipment.

Among the duties of the subsidiary will be to cooperate with the Frick factors in Canada, and to assist them in serving customers to the fullest extent. These factors are: B. Trudel & Cie., Montreal; John A. Kennedy & Co., Ltd., Saint John, N.B.; Clayton Construction Co., Ltd., St. John's, N.F.; J. H. Lock & Sons, Ltd., Toronto, Ont.

Since 1940, except for wartime service in the Royal Canadian Navy, Michie has been with Canadian Ice Machine Co., Ltd.

Under Landrum-Griffin Act

NAPC Outlines Procedures for Employer In Labor Proceedings

WASHINGTON, D. C. — A brief outline of recommended procedures for employers under the Landrum-Griffin Labor Act passed last year has been issued by the Labor Dept. of the National Association of Plumbing Contractors.

The department said that if an employer believes his rights under the Taft-Hartley Act (as amended by the Landrum-Griffin Act) have been violated by a union, this is what he can do:

"FIRST: Contact the NLRB regional office in your area. The NLRB must be contacted WITHIN SIX MONTHS of the violation. The regional director or one of his field attorneys will help you in filling out the form which is called a 'charge.' It is not a complicated procedure and does not take too much time.

"SECOND: An NLRB field examiner will then investigate your charges and a decision will be made by the regional director whether there is sufficient evidence to justify the filing of a complaint against the union. The regional director may do one of three things:

"1. He might refuse to issue a complaint finding that you do not have a case. You can appeal his refusal to issue a complaint to the NLRB general counsel. The appeal must be done promptly—within 10 days. The NLRB general counsel has final authority over this and once his decision is made, it is not possible to get court review.

"2. The regional director may contact the union and try to get a settlement agreement and if this can be done, nothing more formal will be done. An employer, however, can file another charge if the union starts violating the law again.

"3. If the regional director feels you have a case, he will issue a complaint and notice of hearing. At this point, there may be a possibility that the NLRB will file for a court injunction against the union.

"THIRD: At the hearing, a trial examiner will hear the case which is similar to a court trial. After the hearing has ended, the trial examiner will issue his intermediate report and recommended order to the NLRB.

"FOURTH: If no exceptions to the trial examiner's report are filed, it becomes final and the order of the NLRB. If exceptions are to be filed to his report—and they are in 80% of the cases heard, this must be done within 20 days of his report.

"FIFTH: The NLRB will then consider the case and make a decision based on the transcript of the hearing and the trial examiner's report. There seldom is any additional hearing. The NLRB may adopt the intermediate report as its own, reverse it completely, or modify it.

"SIXTH: Since NLRB orders are not self-enforcing, and if the employer refuses to comply with its order, the NLRB will take the case to a United States Court of Appeals. Also, if the employer so desires, he can beat the NLRB to the punch and go to court before the board does so."

Electrowheel *

another LAU "first in the industry"

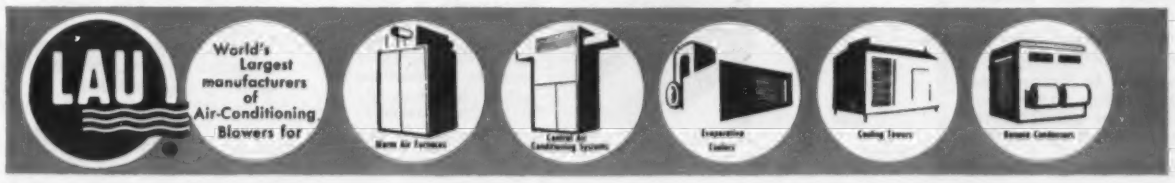
Here's another Lau first, designed to help solve those cramped space blower installation problems. The versatile Lau "Electrowheel" is recommended for use whenever air moving efficiency is a requirement but space limitations present a problem. The "Electrowheel" is extremely efficient when operating where the utmost in compactness and smooth, quiet operation is required.

Lau "Electrowheel" features include stationary rubber mounted shaft, sealed ball bearings, rigid one piece motor mounts, 30" motor leads with BX connector and the same high standard of quality found in every Lau engineered product. One moving part assures years of trouble-free service.

When an installation requires a high performance blower the Lau "Electrowheel" is the logical answer. Write for Lau Catalog LSO-463 for complete information.

So named because a high quality external-rotor motor forms the wheel hub . . gives you more air delivery in a small package than ever before possible!

THE LAU BLOWER COMPANY, 2027 Home Avenue, Dayton 7, Ohio



Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

He realized that before electricity was really to become a useful servant of mankind . . . to pass from the stage of laboratory experimentation to practical application . . . the public had to be "sold" on it.

He described the type of selling he had in mind as "commercial education."

"Our fathers were not equipped mentally to grasp or to utilize the new order of things which burst upon them. . . . Many of them did not seem to know at first what it was all about.

"If modern industry and invention expected to have a market for its products it had to turn schoolmaster on an elaborate scale.

"It had to educate the world before it could sell the world. It had to show men how to think a little further and a little faster before it could expect to interest them in how to buy.

"It was necessary to create an understanding and appreciation of a higher standard of living . . . and then a desire for it . . . a demand to get more out of life on the part of several million individuals who would have been entirely satisfied with what they had.

"The educator had to follow the inventor. We may term it commercialized education . . . but it has made its results felt."

Because Mr. Edison and his early colleagues had a "will to sell," as well as a talent for invention, Americans have enjoyed blessings to a degree unmatched by any other people in the world.

But, the job is hardly begun!

Today we must sell not only our service but our way of doing business. This we must do, not merely to prosper but to survive!

Edison envisioned the need for increased automation long ago, even though the professors and news writers had not yet dreamed up a name for it.

In 1926 he urged a more rapid and universal substitution of electrical energy for human energy in these words:

"We must substitute motors for muscles in a thousand new ways. A human brain is greatly hampered in its usefulness if it has only the two hands of a man to do its bidding. There are machines each of which can do the work of a multitude of hands, when directed by one brain. That is efficiency.

"Anything which tends to slow work down is waste. Every effort should be made to speed work up. Increased production means enlarged lives for mankind. Human hands alone can do no more than they did long ago by way of fast production.

"Only machines, not nerves and muscles, can increase men's output. We have scarcely seen the start of the mechanical age, and after it is underway we shall discover that it is also such a mental age as never has been known before."

You will note that Mr. Edison saw, in the substitution of mechanical power for human effort, a boon for mankind—rather than a Frankenstein monster, such as some of our present-day prophets of doom would predict.

He foresaw that, while automation would replace some workers, nevertheless it would only release them for the many new tasks required to keep up with a constantly increasing population and a continually rising standard of living.

Automation inevitably will generate a demand for greater skills and a higher pride of craftsmanship among our people.

That result is becoming increasingly obvious today as the demand for better-trained technicians becomes more clamorous.

Whereas mass production upgraded the unskilled laborer of yesterday into the semi-skilled machine operator of today, automation will upgrade the semi-skilled machine operator of today into the highly-skilled and educated technician of tomorrow —multiplying his income in the process.

Automation, if management is alert to its broader potentialities, will lead to the ***human use of human beings,*** to the greater use of man's specifically human qualities—his ability to think, to analyze, to decide.

And What's New?

Americans are hearing a great deal about "automation" already, and will hear even more about it in the future. Automation has been defined as the "use of machines to run machines."

Automation is the technological revolution which characterizes the second half of the 20th century, just as mass production signified the first half.

While other forms of energy may be used (particularly in applications such as heating and motive power) electricity is the force which operates those control devices which make automation possible.

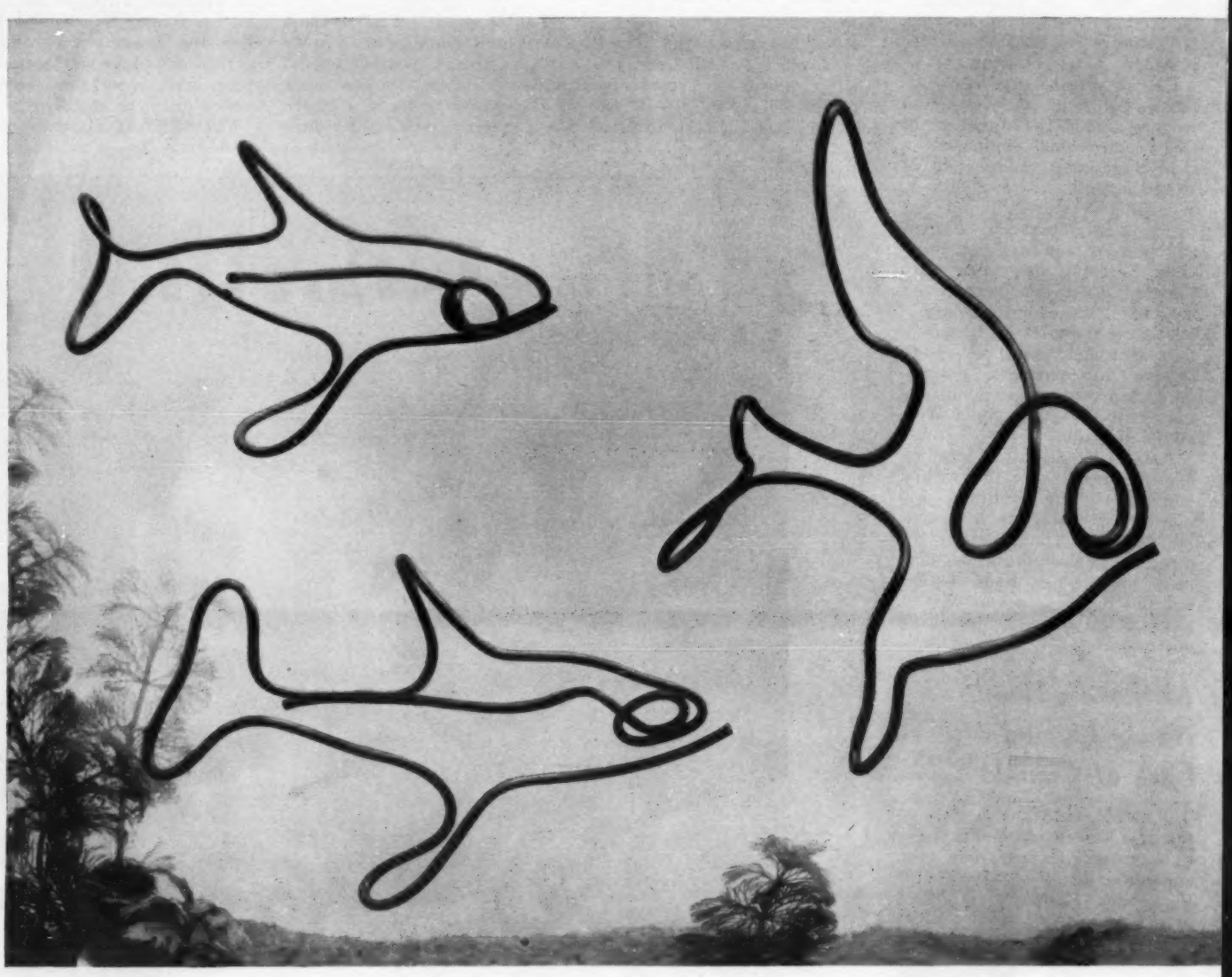
WHAT ABOUT GAS AIR CONDITIONING?

How Fast Is It Growing?

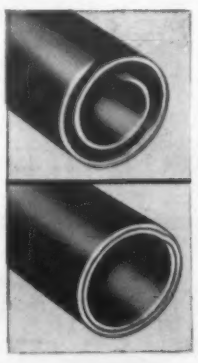
What Types of Units Are Available? How Reliable Are They?

What Are First Costs and Operating Costs?

The answers to these questions and many others will be provided in detail in the May 30 issue of the NEWS.



There's almost no limit to the things Bundy can mass-fabricate



Bundyweld is the only tubing double-walled from a single copper-plated *steel* strip, metallurgically bonded through 360° of wall contact for amazing strength, versatility.

Bundyweld is lightweight, uniformly smooth, easily fabricated. It's remarkably resistant to vibration fatigue; has unusually high bursting strength. Sizes up to ⅜" O.D.

When it comes to mass-fabricating steel tubing into complex shapes, the folks at Bundy® are specialists. Whether it's condenser tubes, compressor parts, freezer shelves or dryer strainer tubes (as shown at right), chances are Bundy can fabricate it better. Here's why:

Bundyweld® Tubing is the safety standard of the refrigeration industry—double-walled from a *single* strip of steel, copper-brazed throughout, to make it leakproof by test. Covered by ASTM-254 and Govt. Spec. MIL-T-3520, Type III.

Bundy designers await your call, at *any* stage of product development. Perhaps they can suggest a new "twist" that'll save you time and money in manufacture.

Bundy specialists can mass-fabricate parts to your specifications on Bundy-designed fixtures and machines. The unit-cost is low . . . the quality high. Got a tubing problem? Better see Bundy *first!* Phone, write, or wire Bundy Tubing Company, Detroit 14, Michigan, today.

WORLD'S LARGEST PRODUCER OF REFRIGERATION TUBING

Westinghouse Designs Thermoelectric Refrigerator for Simulated Space Flight

PITTSBURGH — A 1-cu. ft. thermoelectric refrigerator, designed and built by the Westinghouse new products laboratories, was one of the key components of a manned capsule that housed an Air Force scientist on a simulated week-long mission into space.

Brig. General Don Flickinger, Air Research & Development Command (ARDC) surgeon and assistant for Bio Astronautics, announced the successful completion of the test of the equipment man must have to live in space. The test was conducted at ARDC's Wright Air Development Div. (WADD) Aerospace Medical Laboratory, Dayton.

Designed to operate in the weightless environment of orbital flight, the Westinghouse refrigerator is a complete food storage system. It was one of six life-sustaining devices sealed inside an airtight 9-ft. capsule resembling an Atlas (ICBM) missile nose cone.

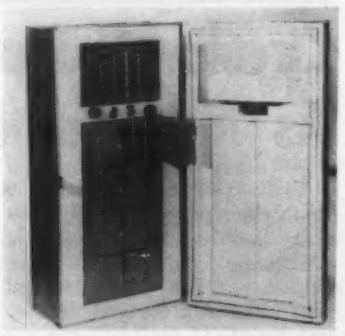
The equipment permitted Courtney A. Metzger, ARDC laboratory engineer and project coordinator, to remain inside the capsule during the week-long test.

Throughout his stay, Metzger's menu consisted of squeeze tubes of liquids; semisolids; solids in diced portions; some bite-size solids; and an assortment of dehydrated, frozen, and stable articles, ARDC announced.

Chris J. Witting, Westinghouse vice president-consumer products, described the thermoelectric refrigerator as the ideal type of unit for applications in space.

"Thermoelectric refrigeration is achieved simply by passing an electric current through the proper kinds of semiconductor materials," he pointed out. "To achieve warming instead of cooling, it is only necessary to reverse the flow of electric current by flipping a switch.

"Being a solid-state device, a thermoelectric refrigerator would not have its performance impaired by zero gravity, high acceleration, or other conditiontions imposed by space travel."



THIS COMPACT 1-cu. ft. refrigerator was one of the pieces of life-sustaining space equipment subjected to a unique test by the Air Research & Development Command (ARDC). Designed and built by Westinghouse, the refrigerator was sealed inside a manned capsule resembling an Atlas (ICBM) nose cone and supplied the special foods required for the extended test.

Witting described the thermoelectric space refrigerator as composed of two main sections —a chill area operating at 40° F. and a larger freezer area operating at 0° F.

The freezer is divided into eight compartments each of which has nine small sub-compartments for food storage. Each compartment stores one day's food supply, with the eighth acting as a spare. Like the freezer, the chill area is divided into 24 small sub-compartments. This design permits the food to be closely contained inside the refrigerator.

In a conventional refrigerator, under the zero gravity conditions of orbital flight, the food would float around inside the food storage compartments.

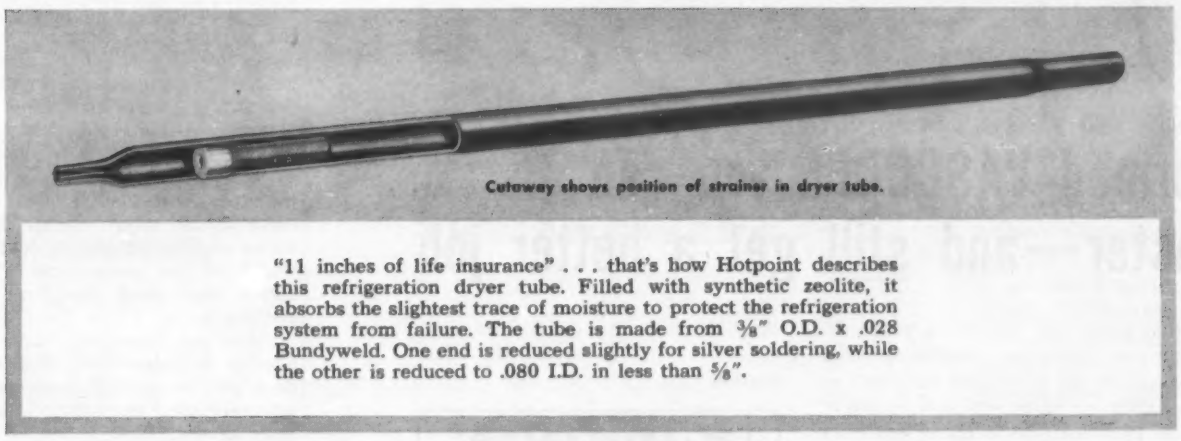
The new space refrigerator was developed at the Westinghouse new products laboratories under sponsorship of ARDC, USAF, by a team of engineers under the direction of J. D. Meess and in cooperation with Dr. Robert Hayes, WADD engineer in charge of the in-flight feeding equipment aboard the ARDC test capsule. The thermoelectric elements were fabricated at the Westinghouse semiconductor department, Youngwood, Pa.

W. G. Evans Named to Thermoelectric Post

PITTSBURGH — William G. Evans has been appointed project manager for the Westinghouse Electric Corp.'s thermoelectric program, it has been announced by Dr. R. A. Ramey, manager of the company's new products laboratories.

Evans is presently studying industrial management at the Massachusetts Institute of Technology, having been among the nation's business executives who were selected for the Sloan Fellowship Program this year. He will take full charge of his duties in June at the completion of the Fellowship.

In his position as project manager, Evans will be responsible for the Westinghouse search for better thermoelectric materials and for the continuing development of thermoelectric power generators and thermoelectric refrigeration equipment.



"11 inches of life insurance" . . . that's how Hotpoint describes this refrigeration dryer tube. Filled with synthetic zeolite, it absorbs the slightest trace of moisture to protect the refrigeration system from failure. The tube is made from ⅜" O.D. x .028 Bundyweld. One end is reduced slightly for silver soldering, while the other is reduced to .080 I.D. in less than ⅝".

There's no substitute for the original

BUNDYWELD® TUBING

WORLD'S LARGEST PRODUCER OF SMALL-DIAMETER TUBING • AFFILIATED PLANTS IN AUSTRALIA, BRAZIL, ENGLAND, FRANCE, GERMANY, AND ITALY

BUNDY TUBING COMPANY • DETROIT 14, MICH. • WINCHESTER, KY. • HOMETOWN, PA.

Circular Shopping Centers Proposed; Seen As 'Most Fantastic Merchandising Tool'

CHICAGO—Shoppers may be going in circles in the 1960s.

A new design for circular shopping centers has been hailed as "the most fantastic merchandising tool yet devised" by *NARGUS Bulletin*, the official monthly magazine of National Association of Retail Grocers of the United States.

The publication described the proposed Circle Center shopping areas designed by Claude H. Pomeroy as the "Disneyland of Shopping Centers," which will provide "full-spectrum shopping," with customer riding, if they choose, on slowly moving sidewalk-seats in air conditioned comfort past every store in the shopping center.

The magazine pointed out that there will be two large supermarkets in the center, to assure the housewife of competitive prices.

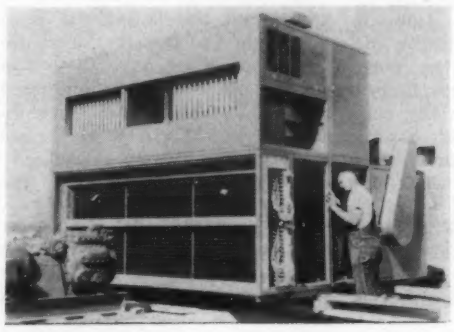
A unique package delivery system, including refrigerated storage, will allow the customer to complete her food and non-food shopping in one trip, without going to her car with previous purchases, and without worrying about food deterioration.

All stores in the center will share the expense of the package delivery and refrigerated package storage system, as all will share the advantages of offering their wares to additional thousands of food shoppers, it was stated.

Each store and each parking location will be numbered according to the 360 degrees of a full circle, providing "positive" identification for both stores and customers' cars.

Other features will be air doors; a self-service service station; escalators to a shoppers' level surrounding a curved mall; a nurse-attended nursery-playground; electronic package pick-up stations; 30 telephone order girls taking orders for every store in the center; and a single credit card for the entire center.

Duct Furnaces Used In Air Handler That Simultaneously Heats, Cools Various Zones In Office Building



GAS-FIRED duct furnaces produced by Reznor Mfg. Co., Mercer, Pa., are partially exposed in top section of this model GMZ multizone unit, being assembled for installation on rooftop of a Los Angeles office building. Cooling components are in lower section. The multizone unit heats, cools, and/or ventilates several building zones simultaneously.

MERCER, Pa. — Gas-fired duct furnaces are components in an air handler that heats, cools, and/or ventilates several building zones simultaneously.

The air handler, the model GMZ multizone unit, is a central system which replaces several units that would independently heat or cool the conditioned spaces, it was pointed out.

The duct furnaces are produced by Reznor Mfg. Co. here. Designed by Airfan Engineering Co., Los Angeles, the multizone units are said to be finding wide application in small office buildings, churches, banks, schools, and similar structures.

"The duct furnaces, and the cooling coils comprising the air conditioning components, are located within the multizone unit, simplifying maintenance and operation," Reznor reported.

"The unit's ability to heat and cool several building zones simultaneously automatically provides a central system which eliminates seasonal changeover.

"Heart of the multizone unit's heating section are one or more Reznor DS Series duct furnaces which singly are available in capacities from 50,000 to 300,000 B.t.u. input. Airfan arranges the Reznors in tandem for more than 1,000,000 B.t.u. capacity in increments of 50,000 B.t.u."

Zone control is accomplished by means of a separate pair of mixing dampers for each zone, one damper controlling the hot air stream while the other controls the cold air stream. A thermostat in each zone regulates the proportion of hot or cold air entering the zone.

"This system allows for complete climate control in any building area, regardless of varying needs for heating and cooling," says Saul Pressman, Airfan's chief engineer, who was primarily responsible for the air handler's design.

"In variable weather or when outdoor temperatures change drastically from morning to afternoon, the GMZ shifts instantly from heating to cooling as conditions require. We find that the unit also is ideal for installations where one or more zones require maximum cooling, while at the same time other zones may need heat or less cooling.

"The air handling capacity also is sufficient to utilize outdoor air for cooling purposes in intermediate seasons," Pressman says.

The unit is weatherproofed for rooftop installation, and also is available in horizontal and vertical designs for interior installation.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

With preformed VASCOCEL® you can insulate piping faster—and still get a better job

Once you discover how easily VascoCel slips into place on pipe or tubing, you can appreciate its savings to you in labor right away. This tough, pliant Neoprene tubing is soft, clean and odorless—slides right on over lengths of pipe, even over pipe with bends. For pipe already installed, it can be slit lengthwise, slipped on, and sealed with VascoCel Adhesive. Fittings for tees, elbows and crosses can be made easily and accurately with a saw-edged knife, miter box and adhesive.

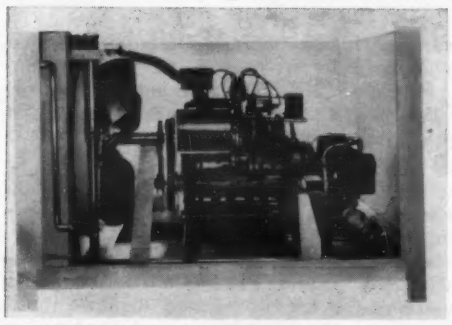
VascoCel has many other features that mean you are giving your customers first-class insulation. For example, its closed-cell structure is an effective vapor seal; a K-Factor of .30 prevents pipe drip. It will hold heat in pipes carrying temperatures up to 220°F. Gives extra safety, too. It is made from material that will not feed a fire or carry flames along pipes from room to room. Resists acids, oil and fungus. VascoCel is fabricated in 6-ft. lengths, with ID's from ⅜ to 3⅛ in. Available through your nearest "Virginia" wholesaler. For more information, write Refrigeration Division, VIRGINIA SMELTING COMPANY, 168 Jefferson St., West Norfolk, Va.

VIRGINIA® Chemicals

Esotoo • V-Meth-L • Can-O-Gas • Vascocel • Permagum Presstite Tape • Water Treatment Chemicals Suniso Refrigeration Oils • National Sales Agent & Repacker for Du Pont's "Freon" Refrigerants

Available in Canada and many other countries

Gas-Cool Announces Development of Natural or LP Gas Powered Conditioner



NEWLY developed Gas-cool natural gas or LP gas powered air conditioner is currently available in 5-ton and 7½-ton capacities.

DALLAS — Development of new natural gas or LP gas powered air conditioning systems for residential or institutional use is announced by Gas-cool Div., Vector Engineering Contractors, Inc. here.

Models currently available are 5-ton and 7½-ton capacities with optional carburetion for use with natural gas or LP gas.

"Average fuel requirement is only 20 cu. ft. of 1,000 B.t.u. natural gas per-ton-hour of operation," the company claims. "LP gas fuel consumption is less than ⅕ gal. per-ton-hour.

"At 100° F. ambient temperature the 5-ton models have a rated capacity of 60,000 B.t.u.h. at 40° F. suction and 68,500 B.t.u.h. at 45° F. suction. The 7½-ton models have a rated capacity of 90,000 B.t.u.h. at 40° F. suction, 100,000 B.t.u.h. at 45° F. suction."

Gas-cool is powered by the Continental engine developed under the PAR program of the American Gas Association.

"The Gas-cool systems feature easy installation either outdoors or roof mounted requiring but two simple connections to cooling coil in the duct system," the announcement said. "Single phase electric service suffices; engine starting requires only standard 230-v 20 amps.

"Gas-cool also features completely automatic thermostatic temperature control and an extremely low operating noise level. This latter feature is due to the design of the fiber glass insulated cabinet and special muffler installation. In addition, four moulded neoprene rubber vibration dampeners are installed between engine-compressor assembly and the steel base for quieter and smoother operation.

In addition to the 5-ton and 7½-ton models, 10, 12½, and 15-ton models will be available soon.

Gas-cool Div. is located at 3210 Elm St., Dallas 26, Texas.

Chauffeurs To Lounge In Air Conditioned Comfort

NEW YORK CITY—An air conditioned chauffeurs' lounge will be one of the features of the 20-story cooperative apartment building rising at 700 Park Ave., according to the builder, Tishman Realty & Construction Co.

The lounge is designed to eliminate the chauffeurs' waiting in cars between assignments. It will be next to the basement garage, will have a rest and reading area, and a direct house phone connection with all the apartments.

A specially-designed central air conditioning system serving the building will enable tenants to get continuous ventilation and dehumidification whether or not cooling is required.

Westinghouse Reports Self-Contained Heat Pump, Cooling Unit Sales Up

STAUNTON, Va. — Sales of self-contained heat pumps and cooling units recently introduced by the Westinghouse Electric Corp.'s air conditioning division are running "well ahead of the industry's upward market trend," according to the company.

Joseph A. Cerny, product sales manager for the division's residential cooling, air cleaning, and furnace equipment, said that "our estimates indicate at least half of the company's new self-contained heat pumps and also our new cooling units are being used in commercial establishments such as shops and stores, and the remainder in residential applications.

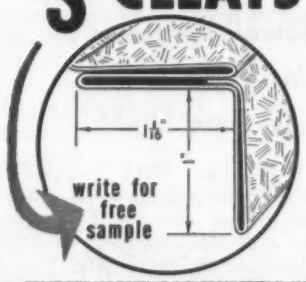
"This rising market trend is not limited to the south where the heaviest concentration of electric heating sales traditionally occurs," Cerny said, "but strong demand is evident in most other portions of the country as well."

These heat pumps and cooling units are self-contained, air-to-air units, and are completely assembled and tested in the factory, thus requiring no connection of refrigeration components in the field, it was pointed out.

The company's new heat pumps and cooling units are available in ratings of 2, 3, 4, and 5 tons. Westinghouse also produces a line of split-system heat pumps rated at 3, 4½, and 6 tons for residential and commercial applications.

erect ductwork easily with

STANDING "S" CLEATS



PRICE PER 100 FEET—F. O. B. SPRINGFIELD, MO.

GAUGE	100-999 FT.	1000-4999 FT	5000 FT OR MORE	EST. WT./ FT
26	$7.30	$6.20	$5.90	.453
24	9.60	7.99	7.40	.578
22	10.50	9.00	8.50	.703

GALVANIZED – 10 FT. LENGTHS ONLY

PM

PAUL MUELLER COMPANY

P.O. BOX 150 – SPRINGFIELD, MISSOURI

THE PEOPLE WHO KNOW REFRIGERATION BEST

DEPEND ON THE PEOPLE WHO KNOW TUBING BEST!

WE TORTURE TUBING TILL WE GET THE ANSWERS

After our engineers have put tubing through such tests as the one illustrated here, they have what they set out to get; all the answers. They put every coil of GM Steel Tubing to this rigorous flare test to determine that it will have mechanical strength far beyond any stresses it will be called on to endure in product assembly or use. This is a break-down test, proving the strength of the weld. It is but one of many, so ask a GM Steel Tubing Sales Engineer soon how Rochester tests for cleanliness, for dimension, for strength. Let him show you the time- and money-saving aspects of using GM Steel Tubing by Rochester. *Rochester Products Division of General Motors, Rochester, New York.*

GM STEEL TUBING BY ROCHESTER PRODUCTS

AMERICA'S LARGEST MANUFACTURER OF REFRIGERATION TUBING

University of Wisconsin To Co-Sponsor PHCIB Train the Trainer Class In Madison

CHICAGO—For the first time since the beginning of the Plumbing - Heating - Cooling Information Bureau's Selling Fundamentals Program, a state university will co-sponsor a Train the Trainer class to prepare instructors to conduct the program for contractors locally, the bureau announced.

The objective of this program is to help contractors to "work smarter, not harder" in building more profitable business "through sales techniques that have been proven many times over to bring results," it was explained.

The University of Wisconsin, cooperating with the PHCIB, the Wisconsin Association of Plumbing Contractors, and the Wisconsin Plumbing and Heating Wholesalers Association, will be the location for a Train the Trainer class June 13 to 17 in Madison.

Industry representatives throughout Wisconsin are invited to attend.

Other regional classes are scheduled for Philadelphia May 16 to 20, and Columbus, Ohio May 23 to 27. Registration in each case is limited to 16.

In the Philadelphia area, the bureau is working with the Middle Atlantic Wholesalers Association. Industry people from eastern Pennsylvania, New Jersey, Delaware, and Maryland will comprise the class.

The Selling Fundamentals Program, made available to the industry only since the first of the year, has been or is now being conducted in more than 50 cities for more than 1,000 contractors, wholesalers, and journeymen, it was stated. More than 100 instructors have been qualified through Train the Trainer classes to conduct the program locally.

Tesco Chemicals Opens Plant In Edwards, Miss.

ATLANTA — Tesco Chemicals, Inc., has opened a new 100,000-sq. ft. plant in Edwards, Miss., near Jackson, according to an announcement.

Opening ceremonies were attended by T. E. Schneider, Sr., president; Tom Schneider, Jr., executive vice president; and other officials from the Atlanta home office.

The company manufactures chemicals for the refrigeration industry.

Reveal Decisions Regarding 'Hot Cargo' Contract Provisions of Taft-Hartley Act

WASHINGTON, D. C.— NLRB General Counsel Stuart Rothman recently announced the first decisions of his office on the application of the new "hot cargo" contract provisions of the Taft-Hartley Act to the construction industry.

The new law permits such contracts under certain conditions with regard to "work to be done at the site" in the construction industry.

In one of the two cases reported, Rothman found an employer and the union to be in violation of the law and authorized formal proceedings against them. In the other case, he found no violation.

The first case involved Avalon Construction Co. of Arlington, Calif., and a local of the AFL-CIO Lathers' Union and related to a project at Glen Avon, Calif. The company's charges against the union were dismissed.

The second case involved R. A. Wiley & Sons of El Cajon, Calif., and Local 230 of the AFL-CIO Plumbers' Union and related to a school building at Chula Vista, Calif. Complaints were authorized against both the company and union on charges filed by Acorn Engineering Co. of Los Angeles.

In taking these actions, Rothman held that:

1. In the *Avalon* case, a construction industry union did not violate the "hot cargo" contract provisions by suing a contractor in the state court to enforce a contract requirement that employes of a subcontractor working on the job site become members of the union pursuant to a union shop clause.

2. In the *Wiley* case, the employer and a construction industry union violated the "hot cargo" ban by entering into an agreement not to use plumbing fixtures manufactured off the job site by a company which did not employ the union's members. The union was held also to have violated the Act by instructing employes not to install the fixtures.

Injunction proceedings, as required by the Act, were instituted against both the union and the employer in the *Wiley* case in U. S. District Court at San Diego.

The "hot cargo" prohibition of the Act, contained in Section 8 (e), bars an employer and a union from entering into a "contract or agreement, express or implied" whereby the employer agrees to cease doing business with or handling the products of another employer.

But a proviso to Section 8 (e) specifies a limited exemption for the "construction industry." This proviso permits such agreements to be voluntarily entered into and observed in the "construction industry" with respect to "the contracting or subcontracting of work to be done at the site" of the job. Section 8 (b) (4) (A) prohibits union action to compel an employer either to enter into such agreement or to give effect to one.

Howell Acquires Flat-Type Motor Line from Diehl

HOWELL, Mich. — Howell Electric Motors Co. announced that it has acquired the entire line of totally-enclosed flat-type motors from Diehl Mfg. Co., a division of The Singer Mfg. Co.

While flat-type motors are primarily for machine-tool applications, they have been applied to numerous other equipment drives, including pumps, oil burners, exhaust systems, conveyors, food machinery, and packaging machines, Howell pointed out.

In celebration of our 60th year of world-wide progress . . .

A Genuine Coleman
gas-lite
Yours to give now as a "buyer's bonus" when you install

Coleman

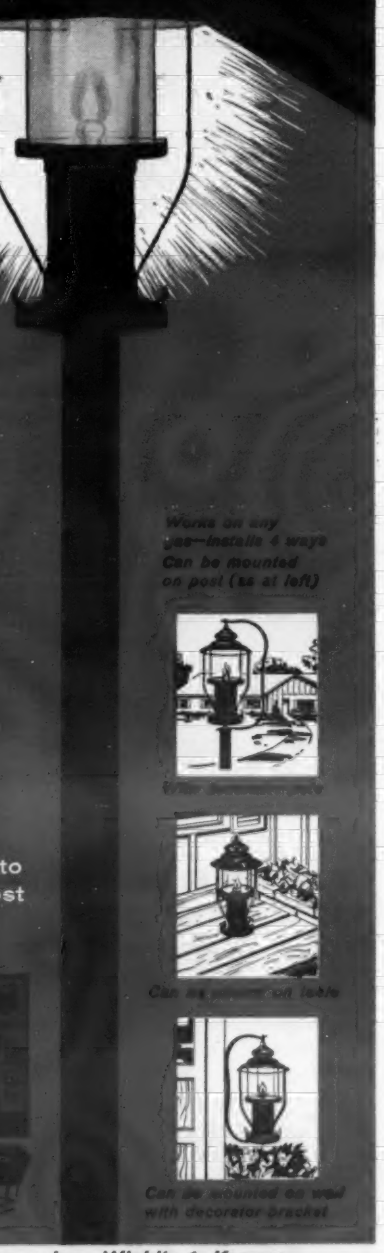
America's Only Bonded Line Heating and Air Conditioning

This new Coleman Gas-Lite is the key to the most complete and most exciting business-building program ever offered through heating and air conditioning dealers. Most complete because it includes every imaginable aid to selling. Most exciting because it gets an enthusiastic response from everyone in the market for heating or air conditioning.

Here's the plan. As an anniversary salute, we're making it possible for you to offer a genuine Coleman Gas-Lite to your customer with the installation of any Coleman central furnace, wall heater, floor furnace or air conditioner. It's an offer your prospects will go for when you give them the lamp as a bonus for buying now! For more information, use the coupon below or call your Coleman distributor for your complete program kit containing full details—*right away!*

Coleman's Gas-Lite promotion will be announced to home owners in the March 26 Saturday Evening Post

Best selling tool of all - you offer this exclusive $500 bond with every unit you sell



Works on any gas—installs 4 ways
Can be mounted on post (as at left)

Can be mounted on table

Can be mounted on wall with decorator bracket

Also makers of famous Vit-Rock water heaters, Decorama space heaters, Coleman lanterns, camp stoves, jugs and coolers—mobile home heating and air conditioning

The Coleman Company, Inc., Wichita 1, Kansas

Quickly send more information on your Gas-Lite promotion.

Name_____ Title_____

Firm Name_____

Address_____

City_____ Zone_____ State_____

Janitrol Offers Merchandising Plan For Model Homes

COLUMBUS, Ohio — Newly-designed room and equipment display signs highlight a Builder's Model Home package, now available to dealers of Janitrol Heating and Air Conditioning, a division of Midland-Ross Corp.

Produced as a sales aid for builders of new homes, the cards may be easily placed throughout the open house.

Four hardboard, two-color room cards feature benefits of "Conditioned Living" in the kitchen, dining room, living room, and bedroom. Typical copy says "you'll dine with appetite and delight in Conditioned Living." Rooms sizes are mounted on thin black metal stands for greater visibility.

There also are four equipment cards—one for heating, one for year-round heating and cooling, one for placement near the thermostat to bring the system "out of the basement," and a "welcome" card to be placed at the entrance of the house. Spring-loaded decca-poles allow easy positioning at any convenient location in the model home.

Information on a complete model home merchandising plan may be obtained from the Advertising Dept., Janitrol Heating and Air Conditioning, Columbus 16, Ohio.

NWAHACA Expands Phone System To Handle More Calls

CLEVELAND—If you've had trouble recently trying to get through by telephone to the headquarters of the National Warm Air Heating & Air Conditioning Association, take hope. Your calls should get through promptly now that a trunk line expansion has been made.

The new telephone setup is one of the changes being made at NWAHACA's headquarters here. These changes, it was explained, were brought on by the association's ever-expanding sphere of activity and influence.

Like all other business operations, NWAHACA's busy phone system was taken for granted as being "just normal." That is, it was until the telephone company advised the association that an "over burden" existed on the lines, which resulted in too many "busy" signals.

"When we learned the astounding number of 'busy' signals that the telephone company had logged up for one month, we realized that our service was insufficient . . . and knew something had to be done about it," said Managing Director James Martin.

The corrective measure taken was to arrange for a trunk line expansion. This has made it necessary to change the association's old telephone number. The new number is MAin 1-4734.

Fraser-Johnston Gold Key Promotion Kit Aimed at Builder, Consumer

SAN FRANCISCO — A new "fresh" approach to selling value in the air conditioning industry is being integrated by the Fraser-Johnston Co., the firm announced.

The company's theme is a "Gold Key" to "open a magic door and let Fraser-Johnston air conditioning bring your favorite climate in. . . ."

The "Gold Key" theme is being merchandised by a complete "Gold Key Promotion Kit" and national advertising. The kit contains dealer promotional material for selling to both consumers and builders with special emphasis on selling a quality air conditioning installation, right at the point of sale in a model home. it was pointed out.

The promotion kit includes:

"Gold Keys to hang on the magic door which hides the Fraser-Johnston air conditioning furnace in any new model home.

"Gold Keys to stick on garage doors, walls, or wherever else a Fraser-Johnston furnace may be found in a model home.

"Gold Key banners for use at the model home, in dealers' windows, on their walls, or as wire hangers.

"Full Color "Gold Key" brochures; Gold Key envelope stuffers; new catalog literature in "gold" covering Fraser-Johnston's entire line of air conditioning equipment; proposal folders for installation facts and figures—to be personalized for every prospect.

"Publicity releases for the local press covering the 1960 line; dealer ad mats; radio commercials."

Fraser-Johnston market tested this "Gold Key" promotion at the 2nd Southwest Heating & Air Conditioning Convention in Dallas in February and at the W.A.C.I.A. exhibit at Los Angeles in April. The program met with such success that it is being used nationwide, the company said.

Results in increased sales for the new 1960 Fraser-Johnston line are already in evidence, according to W. H. Johnston, Fraser-Johnston president.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

New Century Electric motor provides low-cost power for fans, blowers, pumps and compressors.

New Century Electric part-winding motor gives extra smooth start

This new motor . . . at either 1200 or 1800 rpm's . . . will give smooth, cushion acceleration. No cogging, jerking or jarring equipment. Just dependable starting power with the same reduction in starting current of all Century Electric part-winding motors. A special winding scheme makes this extra smooth start possible.

Applications—Have an application where power company restrictions limit inrush current? The complete line of Century Electric part-winding start motors may be the answer. They provide the most economical and dependable way of starting equipment such as fans, blowers, centrifugal pumps and compressors, as well as reciprocating compressors with unloading valves.

Reliable power—High quality construction features include . . . coils insulated with tough polyvinyl acetal resin . . . windings dipped and baked with several coats of high temperature synthetic varnish which protect against oil fumes, mild acids, dust and grit . . . rotors dynamically balanced so motors run smoothly and quietly . . . rugged cast iron frame for long life and low noise level. Century part-winding start motors are available in 20 to 150 hp sizes and in speeds of 1200 and 1800 rpm.

Application aid—A Century Electric application engineer will be glad to discuss your part-winding start problems with you. Century Electric also makes a complete line of motors . . . all sizes and types from 1/20 to 400 hp. For a copy of the new Century Electric Motor Application Guide, please write for bulletin 270A. For *more* than a motor . . .

CENTURY ELECTRIC COMPANY

St. Louis 3, Missouri *Offices and Stock Points in Principal Cities*

Century 59-13

York Announces New Promotion On Room Units

YORK, Pa.—A new room air conditioner promotion has been announced by the York Div. of Borg-Warner Corp.

Speaking at a recent series of distributor meetings, Todd Owens, York's manager of advertising and sales promotion, explained the company's "Caravan of Values."

He said that the new promotion will tie in with York's national advertising theme — a sizzling hot desert, and explain how York products bring relief from desert-like heat.

To kick off the campaign, York is placing full-page newspaper ads in all key markets throughout the nation. These ads announce the Caravan of Values promotion by York dealers and invite customers to the dealer's showroom.

After watching a demonstration of a York room air conditioner the customer receives a free temperature humidity indicator which enables him to tell the T-H in his own home at a glance.

A complete promotional kit for the dealer includes newspaper and point of sale materials. The advertising agency for all divisions of the York manufacturing operation is Keyes, Madden & Jones of Chicago.

For Your Reprint Copy

"Short, Short Course in Air Conditioning Fundamentals." By D. C. Schaffer. Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.

Room Unit Display

UNSIGHTLY POST became a top display spot when Raub's Appliances in Miami decided to center its Fedders room air conditioner display around it. At the left is Manuel Raubfogel, owner, with G. F. Klein of Lowry of Florida, Fedders distributor.

RCA Whirlpool Sales Executives Promoted

ST. JOSEPH, Mich.—Several "RCA Whirlpool" sales executives moved up a rung on the Whirlpool organization ladder recently.

Jack D. Sparks, vice president in charge of RCA Whirlpool sales, announced a series of personnel promotions, most of which are the result of the recent promotion of John M. Crouse, former general sales manager, to general manager of Whirlpool Corp.'s new Commercial Laundry and Drycleaner Div.

Heading the list of new changes is Harper R. Dowell, former distribution manager, who becomes general manager of distribution and sales.

New general sales manager, reporting to Dowell, is Thomas F. Bartley, who was formerly field sales manager.

C. R. Armstrong, general manager of the Detroit Sales Div. from mid-1958 to date, has been named general manager of branches and will supervise wholesale activities in Detroit, Atlanta, and Jacksonville. He will be succeeded in the Detroit branch by C. Edward Reiner, most recently sales manager of RCA Whirlpool automatic washers.

Raymond A. Muldoon, national advertising manager since early 1958, has succeeded Reiner as sales manager of automatic washers. Quentin B. Garman, refrigeration division sales promotion manager, has been named national advertising manager and Ronald I. Gow has been promoted from the Atlanta branch to assistant national advertising manager.

Sol Goldin, manager of retail marketing, has added liaison with industry groups and associations to his other responsibilities.

As a result of the promotion of Peter N. Prussing from west coast regional manager for RCA Whirlpool sales to general manager of freezer sales to Sears, Roebuck & Co., James D. Walker will leave his district managership in the southeast to replace Prussing on the West Coast. Sterling L. Beck, Jr., formerly in sales training, takes Walker's job as district manager.

Simultaneously with the list of promotions, Sparks also announced the formation of a dealer sales development team headed by Franklin T. Grimes, former sales manager of the specialty Products Div. Grimes will be assisted by L. Earl Mitchell, who recently rejoined the company.

Shreveport Cooling Permits Total 130 for April

SHREVEPORT, La.—During April, Shreveport's Air Conditioning Dept. issued 130 permits for air conditioning and heating installations costing $323,037, it was reported by Clyde Juneau, air conditioning inspector.

In March, 98 permits were issued for a total equipment and installation cost of $202,618. April permits were listed as follows:

Residential: Year-round air conditioning and heating—42; air conditioning—8; heating—46; replacements—4.

Commercial: Year-round air conditioning and heating—4; air conditioning—7; heating—1; replacements—4.

Alteration and/or additions—11. Refrigeration—3.

Largest commercial permit—$124,171—was issued to Fitzgerald Plumbing Co. to alter the air conditioning and heating system for United Gas Co. Largest residential permit, amounting to $4,238, was issued to Frees, Inc. for an air conditioning and heating installation.

Juneau added that the number of inspections and survey for April totaled 268.

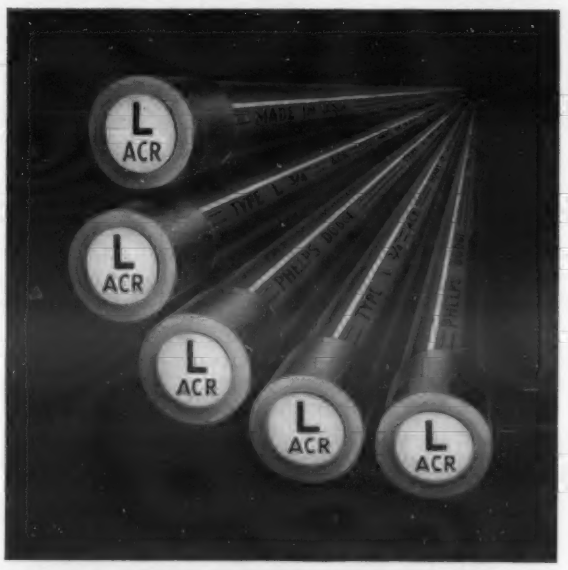
WHY YOU SHOULD SPECIFY

Phelps Dodge Copper Refrigeration Tube

The Famous Mine-to-Market Quality Line!

1 **HIGHEST GRADE COPPER.** Phelps Dodge refrigeration tube is made of the finest copper from Phelps Dodge's own U.S. open-pit mines. Smelting and refining of the copper ore are also done by Phelps Dodge to assure lasting quality.

2 **FINEST QUALITY CONTROL.** Phelps Dodge refrigeration tube is carefully controlled for quality throughout fabrication, rigorously tested before being packaged to assure finest tube properties and lasting quality in service.



3 **COLOR-CODED ACR TUBE.** Phelps Dodge ACR tube is specially cleaned for refrigeration use. Extra-long coded end caps are your assurance of factory-clean tube at job site. Tube is color coded "ACR" for your protection.

Quality tube sold the quality way—through authorized wholesalers!

ACR-W AIR CONDITIONING AND REFRIGERATION WHOLESALERS ASSOCIATE

PHELPS DODGE COPPER PRODUCTS CORPORATION
New York, N.Y. • Los Angeles, Calif.

PD

Luscombe Finds

Controlled Ventilation, Humidity Required For 'Deluxe' Comfort with Electric Heat

CHICAGO — Noting the general lack of documented information on humidity and its control, R. H. Luscombe of Penn Controls, Inc., believes the electric heat industry "has much to gain by seeking more specific data and means for providing automatic control of ventilation and humidity."

Speaking at the first National Electric Housing Heating Symposium and Exposition here, the Penn manager of marketing disclosed results of a one-man quiz on humidity problems in electrically heated homes which he conducted among utility companies, manufacturers, wholesalers, contractors, and homeowners.

Occasional complaints of too high or too low humidity conditions were turned up in Luscombe's survey, but he emphasized that "the electric heat industry, because it has encouraged and upgraded home construction with advanced techniques of installing insulation and reducing infiltration, has gained among many other things the advantage of providing the homeowner with higher and more uniform humidity levels."

Where humidity conditions run too high during winter, Luscombe found, use of kitchen and bathroom exhaust fans controlled by humidistats is being recommended by several utilities.

Automatically Controlled Forced Ventilation Gaining Attention

"Not all of those questioned were familiar with this solution of the problem, especially in the South, but in the North Central section I noted growing interest and recognition of the merits of forced ventilation automatically controlled," he declared.

"There was also recognition that air infiltration, under low wind velocity conditions frequently associated with low outside temperatures, is apt to be low—in the order of ½ air change per hour," Luscombe also said.

"In the effort to increase the sale of electric heat in homes by reducing heat losses and installation cost, we must not overlook that in many areas the customer is paying a premium for fuel energy and has reason to expect deluxe living conditions," he cautioned.

"The conditions that affect his personal comfort must include close control of temperature room by room, adequate ventilation for odor elimination, and control of humidity within healthful but practical limits," Luscombe declared.

As for his study of conditions in the field, Luscombe explained that "a check of actual conditions in four typical electrically heated homes was made over a period of five weeks with an outside temperature range from -5° to 50° F. Readings of outside and inside temperatures, and inside relative humidity were made at approximately 7 a.m. and 7 p.m. each day.

"Pertinent notes were taken on outside weather conditions, inside living habits, etc. In addition, information on construction details, volume, types of equipment, connected load, and condensation on windows, if any, was observed," he said.

"In summary, three of the houses located in northern Indiana, with outside temperatures ranging from -5° to 47° F. held humidity not lower than 35% and not higher than 47%. Two houses were occupied by childless couples and the third couple had one 16-year-old son.

"All houses had been occupied for more than two seasons. Variation between humidity readings taken morning and evening were rarely more than 1 or 2% except for one interesting data note worth detailing. This house had a fireplace," pointed out Luscombe.

"Thirty-six per cent r.h. was the low reading for the week in this house even though outside temperatures were as low as 16° and with wind, and under these conditions the r.h. was reported at 39% and 40%. This was the only evening the fireplace was operated during the test period and the occupant reported rapid fall in the humidity instrument reading not fully reflected in the 36% reading shown above.

"In the three houses, 'none' to 'light' condensation was reported on living room windows which were 'Thermopane' or storm sash types. Condensation was too 'light' to be significant except when drapes or shades were drawn," he said.

"The four house was located in southern Tennessee and the test was for only one week at outside temperature range between 21° and 50°. Room temperatures were 72° to 76°, mostly at 74°. Humidity range was 24 to 32% with no condensation indicated on single glass.

"The installation is 12 years old and insulation is generally less than specified in northern latitudes. The house was occupied by a man and wife.

"My observations on this small sampling of homes in the 1,000 to 1,200-sq. ft. size class are that humidity conditions are good, suprisingly uniform, and the three houses in Indiana are running humidities about as high as would be considered practical without window condensation.

"It is possible that an increase of 5 to 10% humidity at the low outside temperatures could penetrate insulation and reduce the 'U' factor of the walls and ceilings, but this is only a surmise on my part and is not based on any factual data. All homes were equipped with kitchen ventilating fans which were used at cooking periods.

"The Tennessee home humidity was substantially lower, probably due to construction not so snug as the Indiana homes," Luscombe suggested.

ALCO'S famous 402

THERMO® VALVES

The Small-Fixture Valve For All Fixtures

NOW AVAILABLE 2 WAYS

- With BUILT-IN PRESSURE LIMITING ELEMENT—to prevent motor overloading and motor burn-out—denoted by the letters P.L. as #402-2F-PL
- Without BUILT-IN PRESSURE LIMITING ELEMENT—for installations not requiring protection against motor overload—denoted as #402-2F

Field proven models for all these capacities:

REFRIGERANT-12
¼, ½ and 1 Ton
REFRIGERANT-22
½, ¾ and 1 ½ Ton
REFRIGERANT-40
½, 1 and 2 Tons

These are your benefits

√LIQUID CHARGE—Install in any position.

√WIDE RANGE SUPERHEAT ADJUSTMENT—2 to 20° F—Easy External adjustment fits Standard Service Wrench.

√REVERSE SEATING—Assures smooth feed at all loads.

√RUGGED CONSTRUCTION — Brass, Bronze and Stainless Steel.

√REMOVABLE STRAINER—At inlet—Easy to clean.

√CAPILLARY AT SIDE—Allows more head room for mounting.

IF THERE'S ROOM FOR YOUR HAND . . . THERE'S ROOM FOR AN ALCO 402

Call your Alco wholesaler—Write for Specifications

- *BUY SECURITY*
- *BUY QUALITY*
- *BUY ALCO*

8216

ALCO VALVE CO.

353 KINGSLAND AVE. • ST. LOUIS 5, MO.

The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors Solenoid Valves • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves

They'll Do It Every Time

by

Jimmy Hatlo

WHEN THE DOC TOLD BUNSEN BURNER HE HAD ULCERS, MRS. B (NATCH) BLAMED IT ON BIGDOME, HIS WHIP-CRACKING BOSS....
ULCERS?!! I SAW IT COMING! IT'S THAT MADMAN YOU WORK FOR!! THAT NO-GOOD, SLAVE-DRIVING BIG-DOME!! HE'D GIVE A SAINT ULCERS! WHY DON'T YOU GET INTO A BUSINESS WHERE YOU CAN WORK WITH CIVILIZED PEOPLE?!!
AND WHEN BIGDOME GOT THE NEWS... WHOM DID HE BLAME? HAVE A QUOTE
SORRY TO HEAR YOU HAVE AN ULCER, BUNSEN--ER--AHEM.. IS EVERYTHING OKAY AT HOME? UH... I KNOW THAT SOME WIVES CAN DRIVE A MAN BERSERK MAYBE I COULD ARRANGE A LONG BUSINESS TRIP--ESCAPE YOUR DOMESTIC PROBLEMS FOR A WHILE....
4-19
THANX AND A TIP OF THE HATLO HAT TO PHIL SHERIDAN, 135 VILLA TERRACE, SAN FRANCISCO, CALIF.
© 1960, King Features Syndicate, Inc., World rights reserved.

WHO Sells a Heating Installation Is More Important Than WHAT System

CYNICS AVER that personal salesmanship is long gone in the heating and air conditioning field. "Tain't necessarily so," as Porgy sang to Bess.

Contractor-dealers who haven't been forewarned that they don't know how to sell, it seems, blithely go ahead and corral most of the available business because:

(a) They've acquired many personal friends—who trust them, buy from them, and recommend their services to neighbors and acquaintances.

(b) Unselfishly they serve community projects—which may be sponsored by Kiwanis, Rotary, or even the Boy Scouts—and thus "get under the tent" of community recognition.

(c) Their "personalities" *shine through,* just like their civic "goodness."

(d) They're buddy-buddies with tract home builders.

What "sells" a new home nowadays? Its location is important, of course. Also, its equipment. And that's where the heating-air conditioning SALESMAN gets a foot in the door. In addition to his personal attributes he stresses:

(1) Minimum operating costs;
(2) Seldom repairs;
(3) Higher resale values of adequately conditioned homes.

All three of these factors are ultra-important to home buyers. At the same time the latter frequently harbor an uneasy suspicion that:

They aren't getting enough for their money.

Here's why so many feel that way:

(a) No "first resident" wants to be stuck with a "white elephant" model of any type home or installation.

(b) In terms of heating and cooling, the new home buyers expects cleanliness, safety, convenience, zone control, proper insulation, plus continuous circulation of clean fresh air.

(c) To achieve the above wants, he should be sold on the idea of complete air conditioning, rather than heating alone. (Rarely is it offered in "tract" homes.)

Parenthetically, Glydewell Burdick (Wisconsin Power & Light Co.) has introduced a sound formula for successful consumer-desire-creation in the area of electrical heating in a new home.

Present electric resistance heating systems afford customers zone control, cleanliness, safety, and convenience, of course. But this is not sufficient, he believes, to create the necessary *desire.*

Operating costs have made electrical heating dubious for many people, particularly those who reside in northern climates—say, Michigan, Minnesota, Wisconsin, Montana, Oregon, Washington, and North Dakota.

Burdick suggests that present housing insulation standards are culpable in this situation. Standard insulation nowadays is 6 in. in the ceiling, 4 in. in walls, and 2 in. under floors.

A "12–6–6" ratio would be far more effective. A thus-protected homeowner could save anywhere from $15 to $50 per month, depending on the local charge per kilowatt hours. (These figures countenance both operating costs and the annual surcharges of ownership.)

A man who has been SOLD a properly designed home also will find that his FHA rating is higher and that the home's resale value will be greater.

Having secured maximum insulation protection, it follows that electric heating equipment (or any other type—gas, coal, oil) will need less fuel densities.

And this will mean improved heat distribution and personal comfort, plus heating elements which will have a life expectancy equal to that of the structure itself.

Finally, if there is adequate provision for an air handling system (which includes central heat ducts to temper the fresh air intake), the watt density is reduced, zoned cooling is provided automatically, and the air circulated is clean, fresh, and properly humidified.

Let's face it, friends. We aren't selling fuels (oil, gas, coal, electricity). We are selling Comfort and Health Protection.

It's the SALESMAN, not the *type* of product, who wins at the retail level in the residential heating and air conditioning business nowadays.

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark reg. U.S. Pat. Office; Est. 1926

AIR CONDITIONING HEATING & REFRIGERATION NEWS

Copyright 1960, Business News Publishing Co.

F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

EDITOR & PUBLISHER, George F. Taubeneck
EDITORIAL DIRECTOR, Phil B. Redeker
ASSOCIATE EDITOR, C. Dale Mericle
ASSISTANT EDITORS: John Sweet, Hugh Mahar, George Hanning
TECHNICAL EDITOR, Frank Versagi
EDITORIAL ASST., Terry Treiber
RESEARCH & PROMOTION DIRECTOR, John MacLean
GEN. PROD. MGR., Walter Schuler
ADV. PROD. MGR., A. M. Barrow
CIRCULATION MGR., Rosalie Ashley
SUBSCRIPTION MGR., Deloris Krol
READER'S SERVICE MGR., Dorothy Rose

PRESIDENT, Edward L. Henderson
VICE PRESIDENT & ADV. MGR., Robert M. Price
VICE PRESIDENT, Allen Schildhammer
WESTERN ADV. MGR., Rex Smith
EASTERN ADV. MGR., Frank Taylor

ADVERTISING OFFICES:
New York, 521 Fifth Ave. MUrray Hill 2-1928-9 Robert M. Price Frank Taylor
Chicago, 134 S. LaSalle St. FRanklin 2-8643-4 Rex Smith
Detroit, 450 W. Fort St. WOodward 2-0924 Allen Schildhammer
Los Angeles, 4710 Crenshaw Blvd. AXminster 2-9501 Justin Hannon

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

VOLUME 90, NO. 4, SERIAL NO. 1,626, MAY 23, 1960

From the Files of the News

25 years ago . . .

1934's 20 air conditioning installations in Miami, with equipment installed in offices, department stores, funeral parlors, and apartment buildings, indicate the rapid advance air conditioning has taken in that area. Total installations in previous years—a meager four.

A 5-ton York air conditioning system was recently installed in a Chicago shoe store.

Air conditioning has been installed on the recently-launched Coast Guard motor lifeboat, **Invincible.**

The $1.5 million Alameda, Calif. courthouse now under construction will have Westinghouse equipment installed and so arranged that the heating, cooling, and humidity may be controlled independently in each of the 13 court rooms.

The NEWS reported on a study undertaken by the University of California Medical School, in which medical research indicated that colds aren't transmissible under controlled air conditions.

New Haven's 100 mile-an-hour Diesel-driven, all-aluminum train, the Comet, has been completely air conditioned with Westinghouse's electro-mechanical system for railway passenger cars.

10 years ago . . .

The Refrigeration and Air Conditioning Association of Cincinnati, contractor group, has asked dairies, breweries, ice cream companies, bottlers, and frozen food distributors to curtail the "unfair trade" practice of leasing or selling at "greatly reduced prices" refrigerated fixtures to their customers.

A late evening TV show, plugging a free demonstration of Carrier room air conditioners, achieved sensational results for New York City's Sunset Home Appliances. Phone operators logged 20 trial installation requests and 15 information requests in one hour.

Wrigley's 26th new supermarket in Detroit incorporates all aspects of modernization, with an unusual pastel color-schemed interior, fluorescent lighting, self-service refrigeration, a 40-ton Worthington air conditioning system, and plenty of room for customers to shop and park.

A $3.5 million Dayton housing project will include approximately 1,000 installations of Frigidaire window air conditioners.

The NEWS reported on how air conditioning helps a Los Angeles research lab control climatic factors governing growth of plants.

New York's Society of Restaurateurs sought extension of the June 1 deadline for installation of water re-use devices in air conditioning systems of more than 3-hp. size and refrigeration systems of more than 3 tons' capacity. . . . Application of the Dole "Ice-Cel" storage system of refrigeration for air conditioning in restaurants, churches, banquet halls, and other places where peak load demands are of short duration, was described by Cy Otterholm.

Proposal by the Contractors' State License Board to amend a section of the California Administrative Code defining a plumbing contractor has been attacked by the Refrigeration Contractors Association of Northern California. It charged the amendment would require that all water lines to and from fixtures and equipment have "solid connections" thereto and that this work shall be done exclusively by plumbing contractors, without regard to any plumbing code, or lack of a plumbing code, in the locality where the work is to be done. The RACCA group claimed "it is beyond the rule-making powers of the board to set up an arbitrary distinction as to which craft shall be selected by the contractor to accomplish the water line connections. The licensed contractor is only required to operate within his proper classification and observe local codes."

SEEKS BIOGRAPHY OF KETTERING

Nolla & Morell, Inc.
Arecibo, Puerto Rico

Editor:

We wish to buy the book of the life of the Great Kettering and beg you to let us know if you have such a book or if you will be so kind to give address of the book store to buy it.

Unpublished anecdotes in your "Inside Dope" of April 18, 1960, interested us so much that we should like to buy the book stated above.

NOLLA & MORELL, INC.

* * *

EDITOR'S NOTE: *Professional Amateur,* by T. A. Boyd. (E. P. Dutton & Co., N. Y., 1957) is a recommended biography of Mr. Kettering.

HUMIDIFIER MFR. OFFERS COOPERATION

Auto-flo Corp.
Detroit, Mich.

Editor:

Congratulations on your editorial, Challenge to Heating Dealers: Your Humidity or Your Life, in the May 2 issue of AIR CONDITIONING, HEATING & REFRIGERATION NEWS.

I can't tell you how much an article of this type means to the humidifier manufacturer, such as ourselves. No matter how much promotion and selling we do regarding proper humidification, we cannot achieve the impact that a non-biased article such as yours does achieve.

If there is any way in which I can cooperate with you in promoting proper humidification, please don't hesitate to call.

JACK CHRISTIAN

EVEN NORTHERN COLLEGES NEED COOLING

Lennox Industries, Inc.
Marshalltown, Iowa

Editor:

Your campaign to air condition the nation's classrooms has struck a two-toned chord with us who are both air conditioning people and long suffering taxpayers.

Since your correspondence with John Norris recently, I have talked to Mr. Norm Rutgers who is our market manager for schoolroom heating, ventilating and air conditioning. We would like to put ourselves and any information we might have at your disposal.

Norm Rutgers visited with Dr. Raymond Snyder at Stanford University recently. Dr. Snyder spoke only for California, but he feels that there is a great need there for air conditioning college and high school classrooms. This is because of the considerable increased interest in summer school.

Another interesting angle is that this is not restricted to southern "hot" states. Norm tells me that even as far north as Minneapolis, air conditioning is a requirement for about 20% of the occupied hours in a normal school year. Now, if we add a summer school session to this, we will find that air conditioning, rather the need for it, becomes quite prominent. Especially if we are to expect efficiency in teaching and learning.

As I mentioned, we are at your disposal.

C. C. FLOREN

TECH CENTERS USED IN CLASSROOM

Western Area Vocational School
Bowling Green, Ky.

Editor:

I wish to thank you for your TechCenter series from week to week. I use them in my school instruction and find them made to order.

ROBERT L. PILLOW,
Refrigeration Instructor

THANKS FOR EDITORIAL ON ASHRAE RESEARCH

Alco Valve Co.
St. Louis, Mo.

Editor:

I have been on an extended trip in the South and consequently have failed to thank you before this for your splendid editorial on ASHRAE research. Thanks a million.

JOHN E. DUBE,
President

NEWS DOES NOT GET TO CAMBODIA, TUT! TUT!

Denham & Co.
Detroit, Mich.

Editor:

I am very much perturbed at a glaring weakness in your circulation list. I note that you have three copies going into Thailand and two copies into Viet-Nam but not one single, solitary copy going into Cambodia.

I can assure you from a recent visit to that country that air conditioning and refrigeration is something the Cambodians clearly, sorely need.

As a matter of fact the Royal Cambodian Airlines, which own two DC-3's, has had to resort to holes cut in the windows for ventilation. Am also positive that neither the Thais nor the Vietnamese will permit their copies of the NEWS to cross the border.

In the event that you should wish to correct this situation, I will be very happy if you would like to commission me to see what I can do—at your expense, of course. Oh, yes! The Cambodians speak a beautiful French.

ATHEL F. DENHAM

Copeland To Pay 20¢ Quarterly Dividend

SIDNEY, Ohio — A 20-cent quarterly dividend was voted on the common stock of Copeland Refrigeration Corp. for payment June 10 to holders of record May 21.

Fifteen cents was paid in previous quarters. The increase reflects the record sales and earnings achieved in the six months ended with March, according to Frank J. Gleason, president.

MINERALLAC
STEEL
Beam Clamps
for Mounting Hangers
on I-Beams

Mounts Minerallac hangers No. 0 to No. 6 on I-Beams without necessity of drilling holes. Have ¼-20 tapped holes. Fits beam flanges up to ½" thick. Low cost. Send for literature.

MINERALLAC ELECTRIC COMPANY
25 N. PEORIA ST. • CHICAGO 7, ILL.

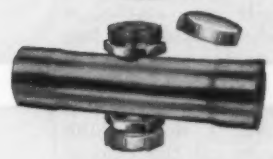
HENRY VALVE CO.
CONTROLLING FLOW
SINCE 1914

DEMAND IS GREAT... EVERYONE IS BUYING THESE EXTRA VALUE PRODUCTS

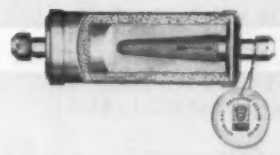
"DRI-VUE" Moisture-Liquid Indicators
"DRI-COR" Filter-Driers Molded Core
"GOLDEN BANTAM" Diaphragm Packless Valves

"DRI-VUE" INDICATOR PORT
Actually Spells "WET" or "DRY" with element Color Variation—Largest Visible Element Area.

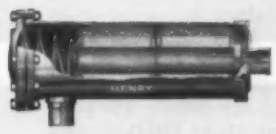
"DRI-VUE" INDICATORS
Double Port Moisture-Liquid Indicators, Large O.D.S. Sizes. Triple Sealed Ports.



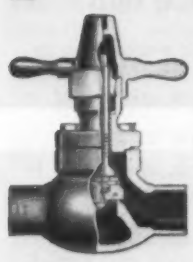
"DRI-COR" FILTER-DRIERS
Two Stage Drying; Molded Core and Granular Desiccant. Abso-dry Processed.



"DRI-COR" Cartridge DRIERS
Molded Filter Core and Granular Desiccant. Split Second Cartridge Installation.



SHUT-OFF VALVES
Packless and Packed with Flanged and Integral Connections. Wide Range of Sizes and Types.



Only Henry offers you this complete variety of types and sizes, from ¼" flare packless to 4⅛" O.D.S. packed Wing Cap valves, from 1 ton sealed type to 165 ton cartridge type filter-driers and ¼" flare single port to 2⅛" O.D.S. double port moisture indicators.

HENRY VALVE COMPANY
For Refrigeration, Air Conditioning and Industrial Applications
MELROSE PARK, ILLINOIS, U.S.A. CABLE: HEVALCO, MELROSE PARK, ILL.

Training the New Salesman

NWAHACA Symposium Speakers Answer Questions

One of the features of the 46th annual convention of the National Warm Air Heating & Air Conditioning Association in St. Louis was a symposium on "How To Obtain Competent Sales Personnel."

Subjects and speakers were "Why You Need Salesmen," Newt T. Hess, vice president in charge of sales, Vorys Brothers, Inc., Columbus, Ohio; "Hiring and Compensating Salesmen," Ray F. Horan, director, Institute of Dealer Management, Janitrol Div., Midland-Ross Corp.; "Training the New Salesman," W. Edward Bogen and John Hensel, vice president and sales manager, respectively, Bogen, Inc., Columbus, Ohio.

Condensed versions of these presentations have been published in the NEWS in instalments. This final instalment presents some of the questions and answers which followed the formal speeches.

Question: I would like to ask Mr. Bogen what he considers a successful salesman in the heating industry should make per year at a 10% commission? What is your experience?

Bogen: Well, in our case, our lowest salesman probably makes around $5,500 and our top salesman makes somewhere around $8,500. We have eight salesmen besides John Hensel, my brother, and myself.

Question: What method do you use in paying your salesmen?

Hensel: We have had very little success with obtaining men on a straight commission, as probably most of you have. So, we use a combined method of a flat salary plus commission. This commission gears back to what Horan was saying about a sliding scale. The fellow is given a list price. If he cuts that price, he's cutting the money out of his own pocket.

How Much Would You Pay a New Salesman?

Question: If you started a new man, what would you pay him? If he started tomorrow as a salesman, what would you pay him to start? $50 a week?

Hensel: No, I don't think you're going to get the kind of man you want for $50 a week. At least, not according to our experience in our town of Columbus. What you will pay him to start will be dictated by local conditions. I think it's going to be up in the order of $75 to $100 a week.

Question: Only salary?

Hensel: Salary.

Question: Plus commission?

Hensel: Plus a commission, yes. Our experience has been in the range of say $60 to $80 per week. I think about $70 it would average out.

Hess: In other words, you expect him to make half his money in salary and the other half in commission?

Hensel: That's right. Don't forget, as Bogen mentioned in his presentation, we are making a pretty big investment in this man, too. We think he has the potential to warrant this investment. But, you're gambling a little bit. There isn't any question of that. But when you are doing this gambling, you want him to know you are gambling and that you feel he has a good future with your company to make money for both your company and himself.

Are You Losing Men Because of Low Pay?

Question: Do you think you're spending a lot of time on training because you're not paying him enough? For instance, $8,500 to the top man?

Hensel: If I interpret your question right, do you mean that we spend all this time on training because we don't pay him enough wages? Is that the idea?

Question: You spend all the time on training, and he's not staying there long enough because you're not paying enough money?

Hensel: No. Frankly, we have a very low turnover of salesmen. Most of our people have stayed a long period of time. We have one man who has been with us for 37 years. Our turnover is low. We are expanding continually, primarily in the air conditioning field. This is where we're branching out and where the volume is going up. Maybe you are more fortunate, but we can't find trained people available. We would rather spend three weeks in order to get this man started in the right direction than to let him fly off at a tangent and let him go his own way, or hire the competitor's best salesman and hope he sells for you.

* * *

Question: What do you pay him during the first three, four weeks?

Hensel: He starts out at the standard salary. This is part of the investment.

* * *

Question: What do you expect a salesman to sell in gross volume during his first year?

Bogen: The gross sales of all of our salesmen will run from, oh, $75,000 up to $150,000. We don't like the $75,000.

* * *

Question: What percentage of commission do you pay?

Bogen: On a project job the commission slides way down. For instance, on a 197 house project the commission goes down as low as 1% to 2%. The top is 10%.

* * *

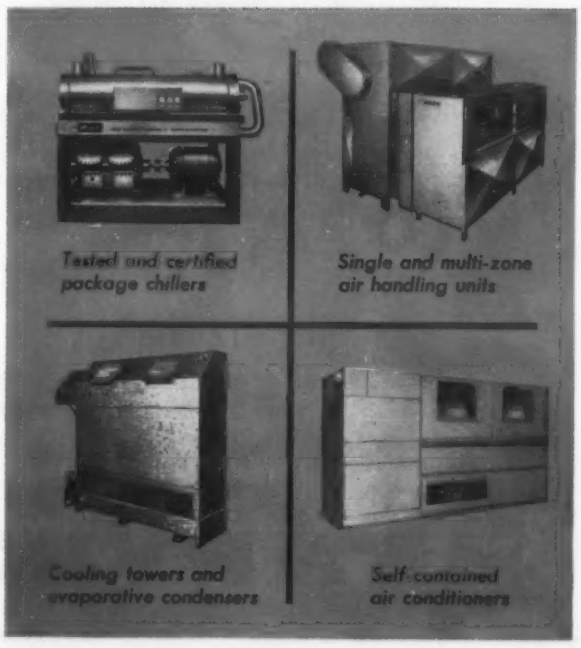
Question: How about expense accounts?

Bogen: Well, we will sponsor our salesmen's membership in a service club. Generally on the basis that we will pay their dues, they pay for their lunches. He may take a builder out to lunch at the end of the month, or the end of the week, according to how he's working. We will allow a certain expense ac-

Acme ... the **practical** approach to

The First National City Bank of New York
... International Airport Branch

International Showcase of and comfort


Tested and certified package chillers
Single and multi-zone air handling units
Cooling towers and evaporative condensers
Self-contained air conditioners

Designed for the "Jet Age" by Skidmore, Owings & Merrill, this striking new First National City Bank Branch is located, appropriately, at New York's International Airport. And with its clean, modern architecture . . . its spaciousness, lighting and air conditioning . . . its handsome appointments and up-to-the-minute equipment . . . Citibank's International Airport Branch is truly an impressive showcase of banking efficiency, convenience and comfort.

MANUFACTURERS OF QUALITY AIR CONDITIONING AND REFRIGERATION EQUIPMENT SINCE 1919

count. We try to be a little careful with it, but we do give them a certain leeway on expenses.

Question: Car allowance?

Bogen: Car allowance.

Question: How much on that?

Bogen: Seven cents a mile.

* * *

Question: You say that your top salesman makes $8,500, and you said that your salesmen specialize. What does the $8,500 a year men specialize in?

Bogen: Commercial air conditioning.

* * *

Question: What volume do you expect to get from the average salesman on remodeling work?

Bogen: It's kind of hard for us to answer a question like that, because he will go out and do remodeling, furnace selling, and so on. However, I think I would say from $75,000 to $100,000.

How Do You Pass Out Leads?

Question: What procedure do you follow in passing out leads to your salesmen?

Bogen: We have Franklin county (in which Columbus is located) divided into territories. We are very careful to give leads to the salesman from whose particular territory they come unless personal friendship enters into it, and then, of course, salesmen can cross territories.

* * *

Question: Is the salesman required to canvas his territory?

Bogen: We do some canvassing in off seasons, especially for air conditioning work. We'll take a shopping center, or a section, or one of the main thoroughfares and do some canvassing during off seasons.

* * *

Question: What do you find is the best method of promotion or advertisement?

Bogen: We use them all. We have a radio program which has produced sufficient impact that we can go up and down High St., and if I tell somebody my name is Bogen, they will say "Oh, Bogen, Bogen & Bogen?" This radio disk jockey has pounded that for the last five, 10 years. And we can go up and down High St., or any place, and they know us and realize who we are. And I think that probably is our best media at the present time.

We also do a little television, a little newspaper, and the home and builder shows. And, of course, we have done some telephone work. We have done extensive telephone surveys in the past. But our case might not be the same as yours. I think our radio programs have done more for us in the city of Columbus than anything else.

Question: Do you have a preferred time?

Bogen: Well, we have it twice a day. It's just a minute spot, and it runs between seven and eight in the morning. And the disk jockey alternates the time, while people are going to work, or getting up to go to work. And then it's also somewhere between five and six in the evening on this particular program.

Hess: It's a good idea for every corporation to create a corporate image. Of all the people I know, I think the slogan "Bogen, Bogen & Bogen" has done this very well. Their wives told me once that it was too well. Everyone knew them and consequently when they joined an organization, they immediately became president and did all the work and they didn't have any time to spend at home. It was a long sad story.

Bogen: Incidentally, "Bogen, Bogen & Bogen" came out of an Amos and Andy program 25 years ago. They had a set of attorneys named Johnson, Johnson & Johnson, and somebody kidded my dad and myself about Bogen & Bogen going in the heating business. So we put it on the sign and it all started in fun, and we have developed this into a tremendous thing in Columbus.

* * *

Question: Have you had any success in digging up leads in 30 and 60 days on the old customers?

Bogen: We have done that. We have written letters in the spring on service. We do that constantly in off seasons.

Hess: It might interest you to know the Bogen boys recently won a trip to Paris for their publicity and sales job. When they got back they found that they had won another one to Hawaii. Ed's brother is there now. They have been winning contests right and left. They've really done a job on selling and training and promotion.

Do You Use an Advertising Agency?

Question: Do you use an advertising agency?

Bogen: Yes, we do. We project a year ahead, and we base our advertising on a percentage of our business. We have been doing this in the last four, five years. We used to handle it ourselves, and we find that we do a much better job by going through an agency, and doing it on a kind of business-like basis, rather than haphazard.

* * *

Question: Would you mind telling us your gross sales a year?

Bogen: We're going to do around a million, or a little over this year.

* * *

Question: What percentage is new work?

Bogen: I would say 75%. Now, I might be wrong in that. Furnacewise, it's 75%. As for air conditioning, we did a tremendous job in going back into areas where we had already sold heating and adding on air conditioning last summer. We call that replacement. We had a big percentage in that type of business.

Sell Service Contracts?

Question: Do you sell service contracts?

Bogen: Very little. We do have some doctors' offices and various places that we set up on a monthly call-back, year in, year out where they have heating and air conditioning, but very, very little.

* * *

Question: How many salesmen do you employ?

Bogen: We have eight retail salesmen besides John Hensel, my brother, and myself.

air conditioning

banking efficiency, convenience...
conditioning (by Acme)

Headlining the comfort story . . . air conditioning by Acme. It's a story that rates headlines, too. Start with the fact that, per dollar invested, Acme-system equipment delivers the best return in cooling capacity and efficiency on the market today.

Then consider a few of the many other Acme advantages...*compactness and light weight*, saves valuable floor space, reduces building structural requirements (a case in point: installation at International, where Acme's unit was one of few that would fit into space available) . . . *factory "packaging"* eliminates on-the-job assembly, cuts installation costs . . . *easily accessible controls* facilitates inspection-maintenance, keeps service time and expenses to a minimum.

Finally, a suggestion . . . get the whole story. Acme advantages are easy to prove . . . proof is readily available from your nearby Acme sales engineer.

Acme INDUSTRIES, INC.
JACKSON, MICHIGAN

Trying to find the right man for a hard-to-fill vacancy—the NEWS' Classified Ads are read by your man.

Place your ad today!

Vending Machine Market In Europe Draws Bechhofer to Frankfurt

ITHACA, N. Y.—The "tremendous potential" of the vending machine market in Europe has led Bechhofer Brothers, Inc., exporter, to open a sales office in Frankfurt am Main, Germany.

After an investigation of the possibilities there, Bechhofer Brothers is convinced that the vending industry has an even bigger future in Europe than in the United States. Europe represents a virtually untapped market of approximately 250,000,000 people whose standard of living is at an all-time high, and still climbing.

Initially, the entire European Continent will be covered by Bechhofer's Frankfurt sales office; in the near future offices will be opened in other European cities, and a complete distribution system set up to handle the vending machine lines Bechhofer has acquired, according to the announcement.

These lines include soft drink bottle venders, pre-mix cup venders, cigarette venders, ice cube venders, and cardboard bottle carriers. In addition, Bechhofer will soon be offering vending machines for coffee, cocoa, milk, ice cream, newspapers, and phonograph records.

Bechhofer also represents manufacturers of products other than vending machines. Among these products are refrigerated display and storage equipment for supermarkets, and television picture tubes.

Founded in 1946 by Jerry G. and Walter W. Bechhofer, Bechhofer Brothers, Inc. has grown steadily year by year, and in 1959 did a sales volume of $5,000,000, it was reported. Today, in addition to the new European branch, Bechhofer has offices in three cities in Venezuela, and active agents in Puerto Rico, Guatemala, El Salvador, Ecuador and many other Central and South American countries, and does business throughout the world.

Bechhofer Trading Corp. handles business in countries outside of the Western Hemisphere, and Bechhofer International Corp. purchases European products which are sold in Central and South America.

In addition to vending machines to be handled by the European sales office, Bechhofer handles major household appliances (stoves, refrigerators, washing machines, kitchen sinks, etc.), commercial refrigeration equipment, and juke boxes, radios, and television.

$280,000 Underground Project In Turkey Opened to U. S. Bidders

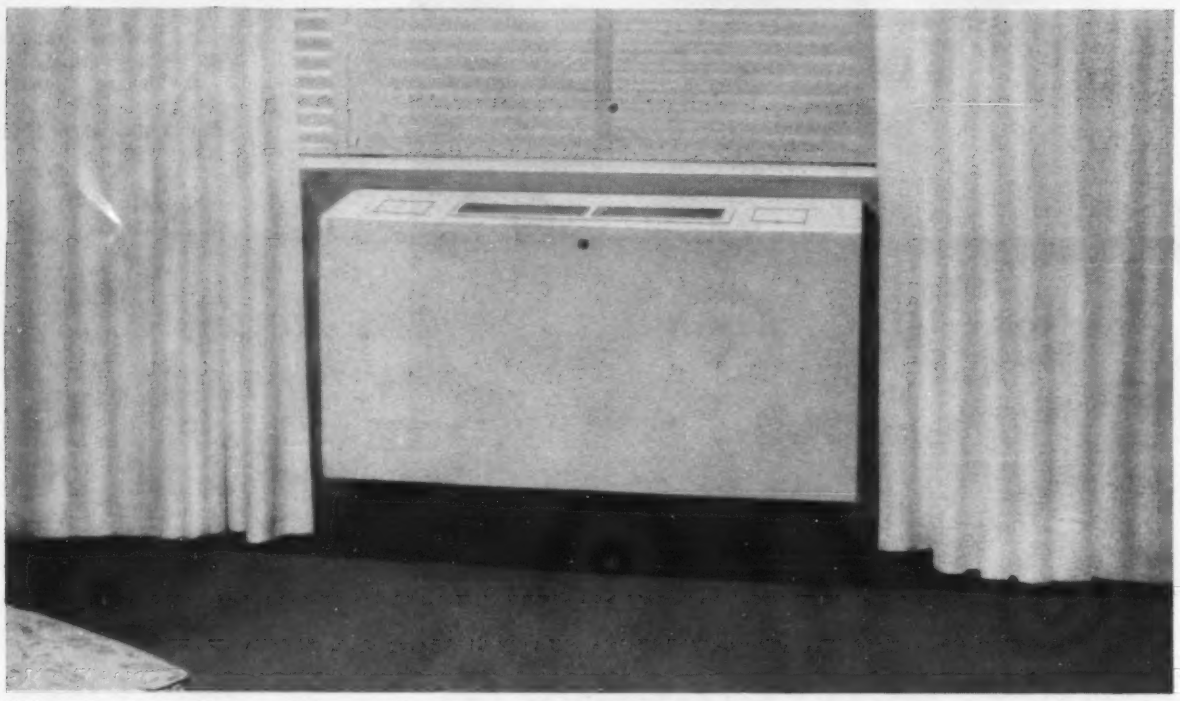
WASHINGTON, D. C. — A new project in Turkey, estimated to cost $280,000, has been opened to U. S. bidders under the international competitive bidding procedure of the North Atlantic Treaty Organization (NATO), the Bureau of Foreign Commerce, U. S. Dept. of Commerce, reported.

The project calls for supply and installation of a complete system of ventilation, air conditioning, and refrigeration in underground chambers near Izmir by Dec. 31.

Firms interested in bidding on this project should register their intention before May 30 by returning completed qualification forms to NATO-ENF. D. Bsk. Kara Enf. Grb. Bsk., Paris Caddesi A. A. Kavaklidere, Ankara. Qualification forms may be obtained on request from the Trade Development Div., Bureau of Foreign Commerce, U. S. Dept. of Commerce, Washington 25, D. C.

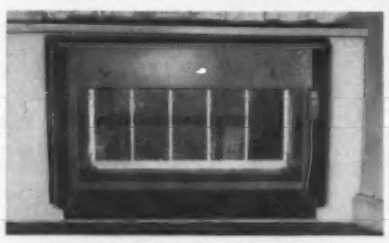
U. S. firms not already certified to participate in NATO work should send a resume of their qualifications to BFC's Trade Development Div., as described in the brochure on NATO international competitive bidding program available from that division.

THIS AMERICAN-STANDARD
THROUGH-THE-WALL UNIT
HEATS AND COOLS



When the job calls for adding cooling to an existing building, use the Type 40 Remotaire. This year 'round heating-cooling unit is ideal for modernizing big buildings. Old radiators are replaced by an attractive under-window unit which is installed through the wall. It connects to existing steam or hot water heating piping, or uses built-in electric heating coils. A self-contained cooling circuit eliminates the need for central cooling plant and tower. Featuring individual-room unit control, Type 40 units can be easily installed in a room, suite or floor at a time to fit customers' budgets. **For information, see your American-Standard representative or write American-Standard, Plumbing and Heating Division, 40 West 40 Street, New York 18, New York.**

Hole is cut through the wall.



Sleeve inserted, louver attached.

Heating-cooling chassis slides in.

American-Standard and Standard® are trademarks of American Radiator & Standard Sanitary Corporation

AMERICAN-Standard
PLUMBING AND HEATING DIVISION

Italian, Australian, Norwegian Importers Seek U. S. Equipment

WASHINGTON, D. C.—Kerotherm, S.p.A., Piazza Castell 4, Milan, Italy, is interested in the purchase of air conditioners, according to the Business & Defence Services Administration, U. S. Dept. of Commerce.

A World Trade Directory report on the firm is available from the U. S. Dept. of Commerce, Washington 25, D. C., or Commerce Dept. field offices. KEROTHERM - MILAN is the cable address of the company, which corresponds in English.

The BDSA also reported that an Australian firm wishes to purchase air cooling and heating plants for mounting within the gable roof space of single-story homes.

The firm is Parbury Henty & Co. (S.A.) Ltd., Henty House, 416-420 King William St., Adelaide, South Australia (cable address: "PARBURYHENTY" ADELAIDE). Estimated requirements are 100 units a year. Electrical data: 250 volts, single phase, 50 cycles or 415 volts, three phase, 50 cycles.

Another company, Norild Apparatfabrikk, Askim, Norway, wants to purchase soda fountain fittings and equipment such as draft arms, draft arm stations, syrup and crushed fruit equipment, and carbonators. The firm makes refrigerators and equipment for cafeterias and snack bars. It corresponds in English.

Tyler's West Off To Visit 28 Countries

NILES, Mich. — Sam West, sales manager, Tyler Refrigeration International, C.A., recently left for London, the first stop of a three-month world-wide tour of Tyler markets in 28 different countries.

Purpose of the trip, according to Jay Alvarez, administrator president of the firm, is to develop present Tyler accounts, and to open up new markets for Tyler equipment.

West's itinerary includes a visit to Tyler Refrigeration International, GmbH, the firm's plant and offices in Schwelm, Westfalen, Germany. Later, he will assist in the opening of the Tyler exhibit at the Poznan 1960 Trade Fair in Poznan, Poland, June 12-26.

Dunham-Bush Tells Contractors

Single Supplier Responsibility for Installation Is Major Advantage

By Frank J. Versagi

DETROIT—"When one manufacturer supplies both high and low side and most of the accessories, it follows that components will be more carefully suited to each other and performance will be optimum. Further, single responsibility for the installation saves you much needless effort both in bidding for and in caring for an installation."

John L. Roth, product manager of air conditioning, Dunham-Bush, Inc., West Hartford, Conn., based his product presentation to some 55 contractors here on these premises. The contractor meeting was co-sponsored by the manufacturer and by Young Supply Co., well-known Detroit wholesaler.

"Heavy emphasis on training, research, and quality control has made it possible for us to produce a full line of products which are reliable yet which lead the way in many engineering and design features," Roth continued. He spent quite some time describing in detail the features of the company's new line of Brunner compressors termed "multi-drive" because the compressor may be applied with direct, hermetic, or belt drive.

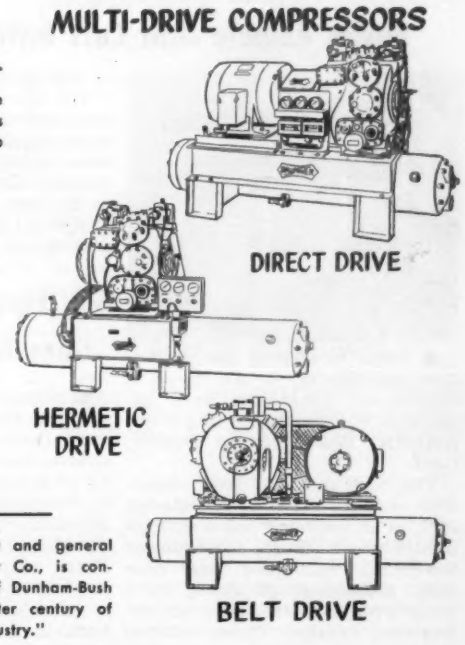
With from three to ten cylinders, nine compressor sizes give capacities from 15 through 100 hp. with R-22, from 10 through 60 hp. with R-12, according to the company. (A fuller discussion of the new compressor line will appear in a future issue of the NEWS.)

Discussing rack condensing units, Roth emphasized the space saving advantages which "are of concern, not only to the usual supermarket installations, but to many customers who have need for more than one condensing unit." Drugstores were cited as an example. "Rack units are conducive to cleaner, more orderly machine rooms which lends considerably to the health angle, particularly in food handling."

Rounding out his theme of a single supplier, Roth commented briefly on the full Dunham-Bush line which includes package air conditioners, defrost systems, blower coils, remote air-cooled condensers. The program is being presented in over 40 cities, he said.

Dave Bell, vice president and general manager of Young Supply, was presented with a 25th anniversary cake to commemorate the wholesaler's "quarter century of service."

DAVE BELL, vice president and general manager of Young Supply Co., is congratulated by John Roth of Dunham-Bush on the wholesaler's "quarter century of service to the industry."


MULTI-DRIVE COMPRESSORS
SKETCHES show the diverse applicability of Brunner's new compressor line to several power drives.
DIRECT DRIVE
HERMETIC DRIVE
BELT DRIVE

Air Conditioning Keeps 'Digger O'Dell' Cool For Underground Stunt

ST. LOUIS—Air conditioning went underground recently along with a professional stunt man.

Known as "Digger O'Dell," the man was buried in a box 6 ft. underground with the announced intention of breaking his previously-claimed record of 58 days underground. He could be viewed through a shaft to the box, which reportedly was equipped for air conditioning.

A wishing well was erected over the site and all funds contributed will go to the Greater St. Louis Chapter of the Muscular Dystrophy Association.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

WOLVERINE
TEMPERS TUBING TO
CUSTOMER REQUIREMENTS

Do your requirements call for commercial copper or copper alloy tubing in a special temper? One perhaps, which will permit tighter bends, withstand expansion or contribute to better workability?

If you do, Wolverine Tube, Division of Calumet & Hecla, Inc., can meet your needs either from its normal range of tempers or, on your request, will temper your tubing to meet your specifications.

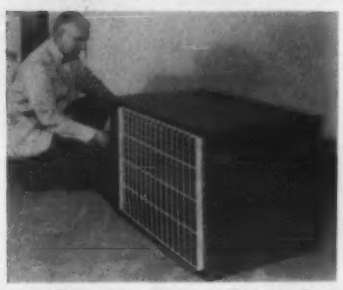
Wolverine's normal range of tempers for commercial tubing includes: ***soft annealed*** (.040 mm. grain size min.) ***light annealed*** (.040 mm. grain size max.) ***light drawn*** (36,000-47,000 psi tensile Rockwell 30T, 30-60) ***hard drawn*** (45,000 psi min. tensile) (Rockwell 30T-55 min.), Drawn General Purpose (36,000 psi min. tensile) Rockwell 30T-30 min. Frequent inspections throughout the production process assure that tempers will meet customer requirements.

Before placing your next commercial tubing order talk to your Wolverine sales representative. He can show you the many ways in which Wolverine Tube can help you obtain maximum value for your tubing dollar. Write, too, for a copy of the Commercial Tube Catalog.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. A, 17246 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN AND DECATUR, ALABAMA • SALES OFFICES IN PRINCIPAL CITIES

Payne Remote Unit Cuts Installation Cost



● Plans to step-up the production schedule of its AR series 5 remote air conditioner were announced by the Payne Co., Dept. AH&RN, Box 2222, La Puente, Calif.

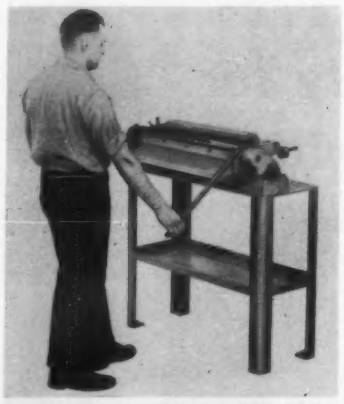
The company said 1960 models will include many new features, such as an improved baked-enamel weatherproof finish, cross-brake top panels, reinforced "zee" base bars, protective coil grille, sight glass with moisture indicator, refrigerant charge. These features will make the model AR less costly to install, it was stated.

The new AR condenser unit can be installed with companion coils which fit all Payne forced air furnace models, for year-round conditioning. The models being offered in the new series are 34,000 and 48,000 B.t.u. capacities, rated in accordance with ARI standards.

Box Finger Brake Does Four Jobs

● A box finger brake with 24 in. forming width said to be particularly useful where boxes, cabinets, chassis, and panels with up to 1 in. lip or flange on top or bottom are to be formed is being offered by O'Neil-Irwin Mfg. Co., Dept. AH&RN, Eighth Ave., Lake City, Minn., maker of "Di-Acro" precision metalworking machines.

This four-in-one machine performs as a box and pan brake by arranging the box fingers in



proper combinations; a bar folder or standard folding brake with all the box fingers in position; a radius former by moving the finger mount bar up to ⅛ in. back from centerline; an open-end former by installing an open-end finger accessory in place of the box fingers.

According to the company, undercut box fingers and 1 in. clearance through top opening enable material as heavy as 16 gauge mild sheet steel to be formed into boxes and chassis as deep as 3 in. and with up to a ½ in. lip. Maximum bending angle in one operation is 135°, the company said. It was pointed out that by reversing the folding blade bends as close as ¼ in. apart can be made.

Henry Shipping New Horizontal Furnace

● Shipments are now being made by The Henry Furnace Co., Dept. AH&RN, Medina, Ohio, of a new three-model line of "Moncrief" oil-fired horizontal furnaces.

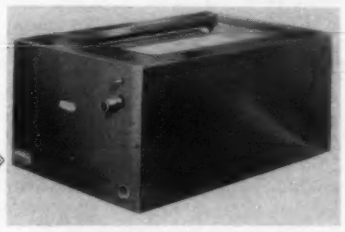
The new units are the No. OY-90-E—89,600 B.t.u. input (0.80 gal./hr.); No. OY-106-E—106,400 B.t.u. output (0.95 gal./hr.); and No. OY-124-E—123,200 B.t.u. output (1.10 gal./hr.).

In addition to these new models, Moncrief also offers a large-capacity oil horizontal furnace, No. OY-224-E—224,000 B.t.u. output (2.00 gal./hr.).

"The two smaller sizes, Nos.

OY-90-E and OY-106-E, have increased heating capacities over those of the former models," it was stated.

"All three of the new furnaces also feature increased air handling capacities for the addition of a summer air conditioning cooling coil. With the standard equipment blower and an optional higher capacity blower motor, the No. OY-90-E will handle up to 3 tons of cooling and the No. OY-106-E up to 4 tons. The No. OY-124-E can be equipped to handle up to 5 tons of cooling."

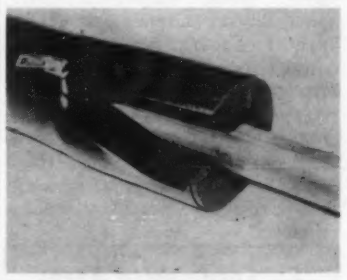


2-Ton Coil Sits Under Down-Flow Furnace

● New to the Lennox air conditioning line is a nominal 2-ton coil designed to be installed under a down-flow furnace, it was announced by Lennox Industries, Inc., Dept. AH&RN, 200 S. 12th Ave., Marshalltown, Iowa.

According to the manufacturer, the coil's cabinet is sturdy enough to support the weight of the furnace and it is completely insulated to prevent "sweating" and to hush air noise. Expansion valve and condensate eliminator are integral parts of the unit.

Coil fins have a rippled edge and they are bonded to the refrigerant tubes in a new and improved manner claimed exclusively by Lennox. Another stated feature is low air resistance for minimum power consumption and for quietness. This coil is rated according to ARI standard 210-58.



Zip Vapor Barrier, Jacket on In 1 Step

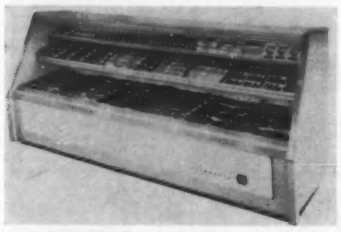
● "Ductwrap," a new product making it possible to zip on pipes, cables, and ducts—a vapor barrier and an abrasion protective jacket in a single step—is now available from the Zippertubing Co., Dept. AH&RN, 752 S. San Pedro St., Los Angeles 14.

It is available in a variety of jacketing and insulation materials including insulation liners of asbestos, foam vinyl, silicone rubber, and "Thermoflex," and jacketing materials of vinyl, vinyl coated Nylon, Mylar, reflective asbestos, and aluminized silicone rubber.

The plastic zipper closure "permits one man to apply insulation and jacketing in a single, one-step operation," it was stated. "No special equipment is needed, and Ductwrap is easily zipped open for spot repairs."

Ductwrap is shipped as a flat tape, so is easily stored, and continuous lengths can be furnished to eliminate bonding of short pieces.

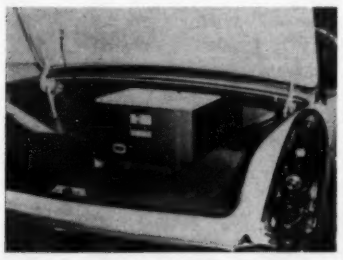
A NEW LOW IN HEIGHT...
SAVES THIS MUCH SPACE
AEROVOX P136F
17.5 MFD 370 VAC
AEROVOX MOTOR-RUN CAPACITORS
Aerovox cracks the space barrier with a new compact capacitor designed specifically to meet the demands of the refrigeration and air conditioning industry. Aerovox's new "space saving" AC motor-run capacitors are almost 15% shorter than conventional units enabling you to reduce overall chassis heights. The reduction in can height has been achieved without any sacrifice of electrical performance and life characteristics. The same high quality materials and superior manufacturing know-how are still a very important part of these new compact units. Available in voltage ratings of 230, 370, 440 and 660 VAC in a wide range of capacitances for prompt delivery in production quantities. All units furnished in drawn metal cases with doublelock seams and hermetically sealed for continuous duty operation. Supplied with double blade universal terminals and new one-piece dual cup bushings to meet all UL creepage requirements and exclusive Aerovox Weatherguard® case finish for maximum protection against rust and corrosion.
If your requirements call for special designs, Aerovox design engineering representatives have the necessary training and experience to assist you on short notice in solving your special capacitor problems. You are invited to draw upon Aerovox's years of pioneering experience in the design and manufacture of AC capacitors for the refrigeration, air conditioning and motor industries.
Write today for descriptive literature on our new COMPACT capacitors.
AEROVOX CORPORATION NEW BEDFORD, MASSACHUSETTS



Meat Merchandiser Has 3 Refrigerated Shelves

● Introduction of a new meat merchandiser with three refrigerated shelves "to add display and merchandising impact" has been announced by Friedrich Refrigerators, Inc., Dept. AH&RN, 1117 East Commerce St., San Antonio, Texas.

The 20 in. and the 10½ in. shelves allow complete display of all types of meats, are adjustable, and may be removed for merchandising such items as hams, the company said. The top of the case is 65 in. high and suitable for the display of non-refrigerated merchandise that shoppers can reach, it was noted.



Car Unit Uses Cubes Or Cracked Ice

● A new type of car refrigeration, using either cubes or large cracked ice and delivering refrigerated, dry filtered air, is being offered by A. B. Scott Corp., Dept. AH&RN, 122 Orangethorpe Way, Anaheim, Calif.

The four available models use ice entirely and provide cool air "at the flick of the switch."

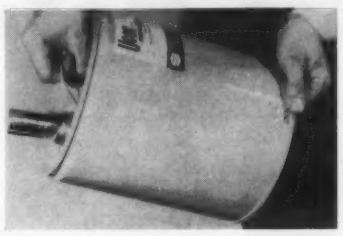
The unit is easily installed in the trunk space of most American-built cars and some foreign models (Volkswagen and Corvair, for example), has only one moving part, and operates on 12-volt electrical system, the company indicated. The unit can also be installed in station wagons, panel trucks, and heavy-duty truck cabs.

Combination Tool Used On Auto Cooling Units

● Introduction of a new combination tool called the "Reeferench" for servicing automobile air conditioning units has been announced by Milbar Corp., Dept. AH&RN, 1900 Euclid Ave., Cleveland 15.

"This five-in-one service tool has wrench openings for all service valve stem and gauge port caps, plus a standard ¼-in. reversible ratchet wrench," the company said. "It also provides for operating the ⅜-in. square refrigerant drum valve."

'Ucon' Refrigerant-11 Available In 25-lb. Can



● "Ucon" brand Refrigerant-11 is being offered in a 25-lb. can that simplifies the solvent use of this fluorocarbon in flushing air conditioning and refrigeration systems, according to Union Carbide Chemicals Co., division of Union Carbide Corp., Dept. AH&RN, 30 East 42nd St., New York City 17.

"The orange color-coded can eliminates the need for handling heavy drums to withdraw small quantities of solvent," it was stated. "Waste and contamination of refrigerant are therefore avoided.

"Another feature of the container is its telescoping nozzle for easier, faster pouring. Permanently attached to the can by a threaded collar, the nozzle may be raised or lowered as needed. An air-tight insulated cap screws onto the threaded collar to prevent evaporation.

"This can is re-usable, requires no deposit, and contains a handle for easy lifting and pouring. Loaded weight is only 28 lbs. This can is 10 in. high by 8¾ in. wide. Construction is of corrosion-resistant steel."

Carbide markets Ucon Refrigerant-11 through wholesalers of air conditioning and refrigeration parts and supplies. Its exclusive sales agent is Ansul Chemical Co., Marinette, Wis.

More details on the products described on these pages may be obtained by writing the manufacturer at the address given in each story.

Spun Blower Wheels Have 4½-In. Blade

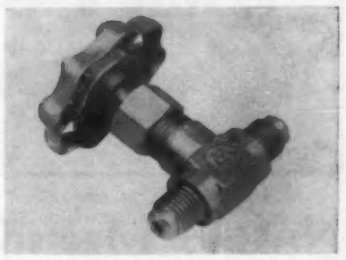
● Designed specifically for the new small 14-in. wide furnaces and compact air conditioners, a new line of spun blower wheels is announced by the Blower Div., The Lau Blower Co., Dept. AH&RN, 2027 Home Ave., Dayton 7.

Based on a 4½-in. blade length, the new wheels are the smallest yet produced by the company in the spun wheel style, it was noted.

With two diameters and two types of back plates, the new wheels will be available with both single and double air inlets. They will be powered either by direct drive or belt driven motors.

The single inlet style will be produced in 9 and 10-in. diameters with flat pied out, flat solid, or coned solid back plate. The double inlet will be made in the same diameters.

Both types will be made with Lau's "Preslok" construction. They will be in production in June.



Line of General Purpose Valves Introduced

● A new line of general purpose valves for industry has been introduced by Madden Brass Products Co., Dept. AH&RN, Aurora, Ill.

Designed for charging, purging, and many other industrial uses, these valves also meet the increasing demand for panel mounting.

Features include forged brass bodies, easy-grip handles, and "Teflon" packing and seats for positive leakproof shut-off without stress or strain, it was stated.

Easy as wrapping a bun around a weenie

LABOR COSTS FOR INSULATING LINES CUT IN HALF BY B.F.GOODRICH CELL-TITE INSULATION TUBING

EVEN when pipe has already been connected, B.F.Goodrich insulation tubing can be slit, snapped on and cemented in seconds. And, if you prefer, you can get it pre-slit for even faster installation. Slitting is unnecessary for new lines—it slips on straight or bent pipe as easily as a ring on your finger. Installation is so fast that labor costs for insulating pipe can be cut 50% or more over old-fashioned twine-wrapping, skirting and other slower methods.

B.F.Goodrich insulation tubing is made of a tough, flexible rubber with millions of uniform, non-connecting cells that seal out air and moisture. It can be used for insulating pipes carrying hot or cold liquids at temperatures ranging from —20°F to 200°F. Clean and easy to work with, doesn't rub off, chip or crumble. It comes in 6-foot lengths, in many wall thicknesses, that are easy to handle, easy to store.

This BFG insulation is also self-extinguishing, so it can be installed on copper tubing before sweat fittings are made—tubing is merely pushed back and held by clamps while joint is soldered.

Try this labor-saving insulation on your next job. For full information on BFG insulation tubing, call your B.F.Goodrich distributor, or contact *The B.F.Goodrich Company, 180 Derby Place, Shelton, Conn.*

INSULATION TUBING BY B.F.Goodrich

What's Going On in Commercial Refrigeration

News of Markets, Products, Methods

NARGUS 'Meets Challenge of '60's' In Dallas Auditorium June 12-16

DALLAS — The "hottest" ideas for building retail food sales and expanding store operations will be presented in air conditioned comfort at Memorial Auditorium here during the 61st annual convention of National Association of Retail Grocers of the United States, to be held jointly with the Texas Retail Grocers Association, June 12-16.

Fifty retailers will take part in the "information-loaded" business sessions, designed to carry out the theme "Meeting the Challenge of the '60's."

The food industries exhibition, held in conjunction with the convention, will provide another "preview" of retailing in the 1960's, "displaying the biggest expanse of food and grocery products, non-foods, and equipment and fixtures ever assembled under one roof, in the history of NARGUS and the Texas association."

Ray Winther Forms Industrial Division

SOUTH SAN FRANCISCO, Calif.—Ray Winther Co. has announced the forming of an Industrial Refrigeration Div. as part of an expansion plan to develop more fully its services to its customers.

Recently the company expanded its Carrier line to include air conditioning systems.

Julian H. Blake has joined the pioneer Bay Area organization to head the new division. He was formerly with Western Engineers, Inc., Portland, Ore.

U. S. Farms Add 23,690 Milk Tanks In '59, 140,793 Now Installed

WASHINGTON, D. C. — The fifth annual farm milk tank survey, recently completed by Dairy Industries Supply Association and National Association of Dairy Equipment Manufacturers, shows 140,793 farm milk tanks installed and in use in the United States as of Jan. 1, 1960.

This figure represents an increase of 23,690, or 20.2%, over the revised total of 117,103 tanks as of Jan. 1, 1959.

Earlier annual figures were 91,096 on Jan. 1, 1958; 57,386 on Jan. 1, 1957; and 29,885 on Jan. 1, 1956.

"The widespread adoption of the farm bulk system of milk handling has been one of the most rapid and revolutionary changes within the dairy industries in recent years," the survey report noted.

Here is the state-by-state scoreboard on installations in 1959:

	Installation as of 1-1-60	1-1-59
Alabama	1,122	899
Alaska	15	8
Arizona	540	470
Arkansas	685	515
California	4,689	4,384
Colorado	924	856
Connecticut	2,426	2,121
Delaware	250	125
Florida	997	972
Georgia	1,927	1,384
Hawaii	21	18
Idaho	840	746
Illinois	9,967	8,290
Indiana	4,650	3,158
Iowa	4,467	2,771
Kansas	1,785	1,481
Kentucky	2,728	2,541
Louisiana	2,500	2,250
Maine	1,509	1,263
Maryland	2,864	2,375
Massachusetts	1,311	1,141
Michigan	10,200	9,000
Minnesota	8,250	7,500
Mississippi	1,079	687
Missouri	3,272	2,651
Montana	562	472
Nebraska	1,861	1,737
Nevada	157	153
New Hampshire	679	419
New Jersey	1,028	857
New Mexico	610	382
New York	7,380	5,260
North Carolina	3,850	3,850
North Dakota	449	364
Ohio	9,200	7,750
Oklahoma	1,863	1,650
Oregon	1,195	1,194
Pennsylvania	4,952	4,207
Rhode Island	280	267
South Carolina	656	611
South Dakota	1,360	976
Tennessee	2,307	1,325
Texas	4,775	4,525
Utah	1,100	937
Vermont	2,829	2,093
Virginia	2,525	2,225
Washington	4,000	3,587
West Virginia	196	61
Wisconsin	17,816	14,457
Wyoming	145	138
TOTAL	**140,793**	**117,103**

In a few weeks, capacity breakdowns as well as data on installations in Canada for the most recent period will be available.

Bill Lets AEC Study Food Irradiation

WASHINGTON, D. C. — Under the Atomic Energy Authorization bill awaiting President Eisenhower's signature, the Atomic Energy Commission would be given discretionary power to study food irradiation.

The bill, H.R. 11713, gives the AEC power to proceed with design and engineering studies on food irradiation. The measure authorizes agency funds for the year beginning July 1.

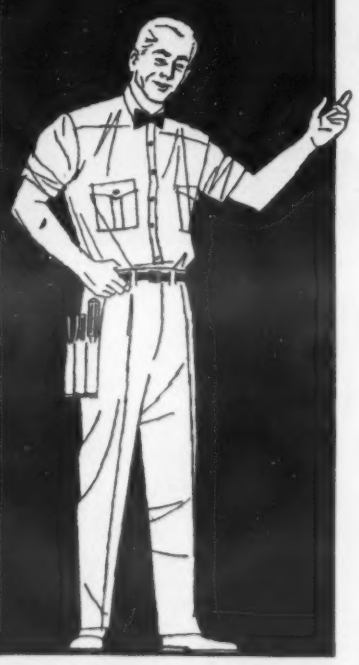
REPRINTS
SELLING FOR PROFIT.
By Frank Klein—Only $1.00 ea. Clip this ad and mail with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

One of a series

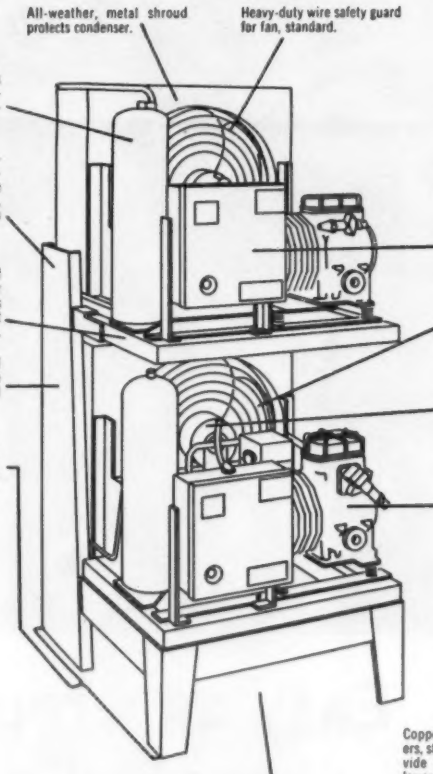
TYLER factory-engineered Condensing Unit Assemblies give you

MORE BUILT-IN, TIME-SAVING, COST-CUTTING ADVANTAGES

CONTRACTORS, INSTALLATION AND SERVICE MEN, USERS—ALL BENEFIT from Tyler-engineered features, built in at the factory!



TYLER SUPER-AIR CONDENSING UNIT ASSEMBLIES


All-weather, metal shroud protects condenser.
Heavy-duty wire safety guard for fan, standard.
High-capacity receiver tank plus large tube condenser offer large pump-down capacities even for long runs.
Tyler-patented cantilever-type design steel racks accommodate one, two or three (exclusive) condensing units. No front posts to slow down or complicate servicing.
Versatile decks. Fastened with bolts, easily removed for easy store handling. Rack is separate, stands free without units, simplifies remodeling.
Factory-engineered. Shipped as single unit. Except 3-Some for which top unit is shipped separately.
Space-saver! Requires only 7½ sq. ft. floor space! For units up to 3 HP. Slightly larger for bigger units.
Charging port on liquid valve simplifies evacuation and charging, standard. Saves time, money, during start-up and servicing.
Factory-mounted hand valves, sight glasses, drier, optional.
Front-mounted, easy-access control panel. Makes installation and servicing easier, faster. Big time-saver!
Extra-large-capacity fan moves more air per unit HP; provides lower head pressure.
Permanent split-capacitor motors. Run cooler, longer, assure long life and trouble-free operation. Oilless fan motor.
Tyler-approved motor compressors, for top balanced system combination. Sizes from ½ HP through 7½ HP.
Suction line vibration eliminator assures quiet operation. (Shipped loose.)
All units delivered with factory-supplied, partial refrigerant charge.
Universal slots. Make possible easy interchange of unit if ever required.
Copper-aluminum condensers, standard. Rustproof. Provide greater heat transfer, lower head pressure for maximum operating economy. Trouble-free. Handle high temperature conditions more efficiently.
Base access space simplifies, speeds up piping, wiring, etc.

OUTSTANDING FEATURES OF THE TYLER PRE-WIRED PANEL CONTROL BOX

• Highest quality "bolted-in" circuit breaker • Also available in "5-gang" for separation of defrost heater load • Pre-wired at the factory • Dual pressure control where required • Tyler Temp-Guard handles up to 50 amps • Defrost control may be of various types: TC, TP or TG • Can be mounted interchangeably in box • Complete, simple-to-follow wiring instructions mounted on cover interior • Hinged cover—can't be misplaced • Quick-action thumb latch opens cover in a jiffy • White interior for easier visibility of all components • Approved starters or contactors, as required • Numerous knockouts for easy electrical installation • All components have readily-available field replacements.

Tyler opens up new profit opportunities to aggressive, well-rated commercial refrigeration organizations. Write today for details.

Tyler Refrigeration Corporation, Dept. AR5 Niles, Michigan.
Send details on ☐ Tyler Distributor Franchise Program ☐ Sales-Cases ☐ Air-Skreen® Sales & Storage Coolers ☐ Condensing Unit Assemblies ☐ Shelving ☐ Checkouts ☐ Reach-Ins ☐ Storage Freezers ☐ Walk-In Coolers ☐ Rolling-Cold Packaging Conveyors.

NAME_____

ADDRESS_____

TYLER REFRIGERATION CORPORATION, Niles, Mich.

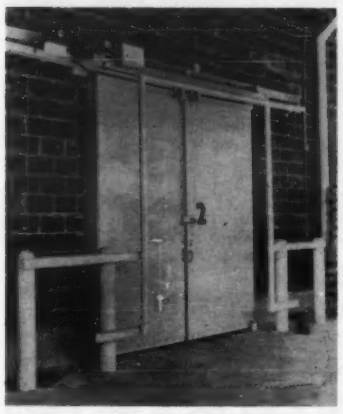
LOW-TOTAL-COST • HIGH-MERCHANDISING-IMPACT

TYLER gives you more!

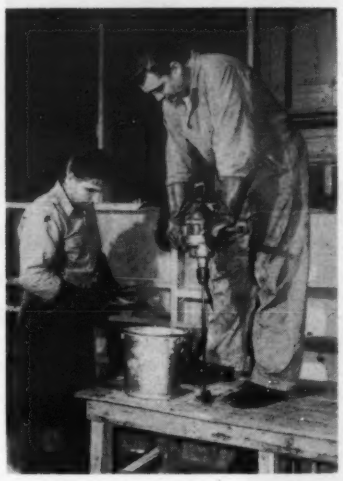
TYLER

Canada: Tyler Refrigerators, 732 Spadina Ave., Toronto, Ontario. (Export: Tyler Refrigeration International, C.A., Apartado Postal 9262, Caracas, Venezuela, S. America)

'Foamed In Place' Insulation Reduces Thickness, Weight, and Cost of Clark Cold Storage Door



PREST-O-MATIC cooler door installed by Clark for Humpty-Dumpty Warehouse in Oklahoma City. Note the guard frame to protect the automatic door mechanism from damage by fork trucks.



EASE of handling is an important factor in the success of Nopco Lockfoam. As shown at right, only one pour is necessary to completely fill the cavity.

AT LEFT two workmen at Clark prepare to mix the two components of the "foamed-in-place" system.

* * *

NEWARK, N. J. — A new lightweight cold storage door has been developed by Clark Door Co. here. Made with a steel skin and using Nopco "Lockfoam" as a core material, the door is being widely used in the cold storage warehousing and frozen food industries, it was reported.

Nopco Lockfoam, a urethane plastic "foamed in place" system, is poured into the door cavity as a liquid. Expanding as a result of chemical action, it pushes firmly against all sides of the door cavity and into all corners of the unit before setting up into a rigid cellular mass, according to Nopco Chemical Co. of North Arlington, N. J.

The use of foams in the door panels was a result of circumstances both coincidental and opportune, it was pointed out. A personal friend of Clark Door's president, Henry Clark, is in the refrigerated warehousing business. Having trouble with insulating and moisture problems at the refrigerator access points, he asked Clark to develop a door that would have a low K factor and yet be moisture proof.

Clark engineers, investigating various types of core fillers, decided on Nopco Lockfoam.

"An excellent thermal insulator, the foam is impervious to oils and greases, fire resistant and rot-proof, fungus and mildew proof," Nopco said.

"The meeting of steel and the foam has produced a door panel that is extremely light, flat, and strong.

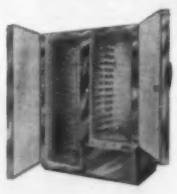
"The skins of the doors—galvanized, aluminum, or stainless steel—are put in place on the door frame, trimmed, and fastened. The door is then placed in a two piece mold. With the door in place, the mold is clamped together and placed in an upright position.

"Using a two component "foamed in place" system, an operator mixes a predetermined amount of the two components and then pours the liquid into the door cavity from above. A few minutes later the material has expanded to a 2-lb. per cubic foot foam to completely fill the cavity. Only one pour is necessary to fill the entire door."

The foamed door is claimed to be easier to make and to handle. Also, Clark engineers say savings in weight has several benefits, including reduction in labor costs both at the plant and during installation. Shipping charges are reduced and in the case of mechanical doors, a substantial savings reportedly is experienced in the installation of the power unit.

"Additional savings in weight can be had due to the low K factor of the foam," it was stated. "A 4-in. thick door can replace the standard 6-in. door with no loss in insulating qualities."

BAKER'S FREEZER



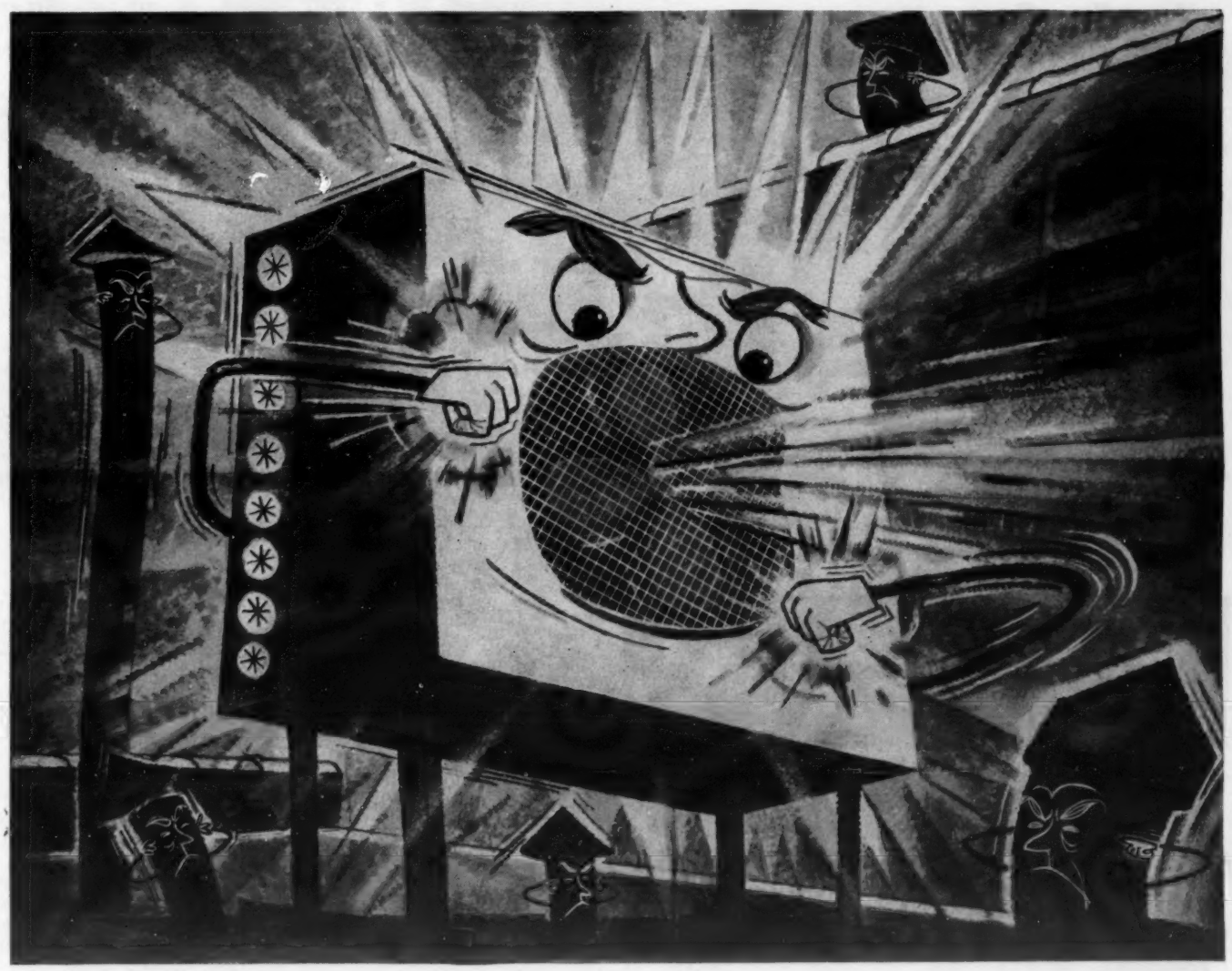
Howard manufactures a complete line of commercial refrigerators and freezers. Priced right, provides more daily sales and profits.

Territories for distributors and manufacturers' agents.

For a free Master Catalog write to Dept. N,
Howard Refrigerator Co., Inc.
4745 Worth St., Philadelphia 24, Pennsylvania

Trying to find the right man for a hard-to-fill vacancy—the NEWS' Classified Ads are read by your man.

Place your ad today!



BEFORE YOU BUY, THINK:

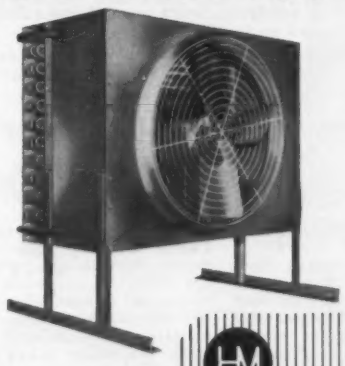
Will your air-cooled condensers sound like thunder?

Not even from close up
if they're by Halstead & Mitchell

Fan noise, vibration and rattling have been engineered out of H&M air-cooled condensers. Deep pitch fans are run at slow speeds. Casings are rugged; won't loosen with use.

H&M condensers are completely dependable. The large coil and exclusive Turbu-Flo fins improve heat transfer by up to 15%. Fins are spaced widely to avoid clogging by dirt and other air-borne particles.

Winter operation is easy, too, with H&M's special modulating valve. Halstead & Mitchell air-cooled condensers are available in propeller fan or blower models. Multiple circuiting at no extra cost. Ask your local distributor for complete information, or write to Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.



H&M AIR-COOLED CONDENSER

HM Halstead & Mitchell

Water-Cooled Condensers · Cooling Towers · Air-Cooled Condensers · Finned Coil Products

Why Soft Ice Cream and Modern Freezers Have Greatly Expanded Potential Market

By Walter R. Brown, Brown Mfg. Co., Inc., Pittsburgh

Most everyone likes ice cream. It has been considered America's No. 1 dessert. Of late, however, something has happened to the familiar methods of serving ice cream. No longer is it possible to purchase a hand-dipped, delectable, high quality ice cream cone at every neighborhood drugstore or confectionery.

Due to high costs—cost of labor in manufacture, trucking, and delivery, storing and hardening, and storing and serving at point of retail sale, as well as salary minimums for counter workers—these factors have influenced the gradual passing of "dipped ice cream."

Today most of the hard ice cream sold is marketed in packages at the supermarket and local store. Another indication of the passing of dipped ice cream was the withdrawal last year from ice cream cabinet manufacture of one of the biggest suppliers, Frigidaire.

This is not to say that hard ice cream will pass out of the picture. Its sales will probably grow with the population, as much more ice cream is being stored at home since the advent of freezing and storing facilities. It is used not only at meals but as a "television snack." This is all to the good, as ice cream is not only a palatable refreshment but a highly nutritious one.

TODAY'S modern soft ice cream freezer-dispenser can be so compact, as with these "Brownie" models, that it can be readily fitted into the congested space so often encountered in the average food serving establishment.

5 Gals. of Ice Cream Yielded Only 3¼ Gals.

For many years soda clerks and fountain operators realized that they were not getting full volume out of 5-gal. cans of ice cream. They dipped carefully, but still, out of a 5-gal. can they obtained about 3¼ gals. of ice cream. Buying in populous areas at about $1.70 a gal. (128 liquid oz.), a 5-gal. can cost them $8.50, making the 3 gals. actually sold cost close to $2.80 a gal.

In order to serve a reasonable portion in a 10-cent cone, a 5 liquid oz. portion was desirable, and this actually was at a cost of close to 10 cents. Thus, if a cake cone were figured at a cost of 8/10 cent, the merchant would lose money on each sale.

Various methods were tried to overcome the difficulty; 2½ and 3-gal. caddies of ice cream were produced to try to save on the huge shrinkage, various shapes of dippers and methods of dipping were developed. All of these helped, but the cost of a 10-cent cone remained close to 9 cents before labor, electricity, and other overhead. Raising the price to 12 cents did not help sales.

Where did the last 2 gals. go? Most food servers know that in making ice cream the original 128 oz. per gal. mix is chilled to about 24° F., and then the refrigeration is cut off while the beater or dasher continues to churn air into the product to a total of almost equal volume with the mix.

Thus, a gallon of mix produces almost 2 gals. of hard ice cream. This is called over-run, and in most states is limited to 100%, or 1 gal. of air plus 1 gal. of mix equals 2 gals. of ice cream.

The pressure of dipping, compressing the product, and the work done in dipping indicated by sore hands and arms of girl clerks, is a measure of the amount of air or over-run forced out of the ice cream, representing a loss to the merchant.

In the Thirties there were a few batch ice cream freezers on the market. These were designed largely for use in roadside stands, in confectioners, and such locations desiring to make their own ice cream. Thus, the so-colled custard stand came into being.

Custard Stands Gained Bad Name

Mix generally used contained some eggs, which occasioned use of the name custard. However, the advent of World War II, the high cost of mix, its scarcity, and the avarice of some operators, prompted heavy adulteration that tended to give custard stands a bad name.

'Soft Ice Cream' Has Gained Popularity

Offsetting this is the swing to "soft ice cream" produced by batch freezers as well as the newer styles of freezers designated as "continuous freezers" built by a dozen different manufacturers. This is the popular name today of the soft serve product, although in some states the butterfat content must be 10% by weight to be called soft ice cream. If lower, it is termed "ice milk."

Some uninformed people may still exist who turn up a nose at the mention of soft ice cream and try to classify it with the "custard" of war years. This is certainly a gross neglect of fact.

Soft ice cream is a delightful confection appealing to all ages. The secret of its appeal is in the matter of temperature. A genuine connoisseur of old style dipped ice cream, you will find, never dipped a spoonful of hard ice cream to put in his mouth. He invariably twirled the spoon around the outside edges of his portion of hard ice cream.

Unconsciously, in this way he was eating it as soft ice cream, not at the serving temperature of about 8° F. but actually at about 20° F. Why did he do this? Because at 8° F. contact of the ice cream with the taste buds of mouth and tongue numbs the taste buds and the full flavor cannot be savored.

However, with soft ice cream as normally served at about 19° or 20° F., the numbing effect disappears, and the soft ice cream melts pleasantly and satisfyingly as with the case of our connoisseur.

The 6% soft ice cream as used at most roadside stands today costs about $1.15 per gal. for pre-flavored vanilla. With the usual 50% over-run as desirable with soft ice cream, this produces some 36 servings at a mix cost of only 3 cents per serving.

If 10% mix must be used for local considerations, the usual cost of $1.45 per gal. resolves to

You Can Serve Your Customer Better - As a Coldin Dealer

A Coldin franchise offers you the opportunity to sell the widest range of commercial refrigerators . . . quality products in every size to fill the needs of every handler of food and beverages.

Let us show you how you can profit. Send for literature and catalogue today!

Coldin
Your Key To Better Refrigeration

COLDIN
CABINET CO., Inc.
2800 webster avenue, new york 58, n. y. • cypress 5-3311

Ends Compressor Slugging

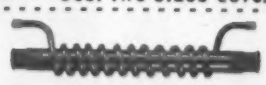
REFRIGERATION RESEARCH
SUCTION ACCUMULATOR

Compressor damage due to slugging ends once and for all with the installation of the Refrigeration Research Suction Accumulator.

Easily and quickly installed in the suction line just ahead of the compressor, the Suction Accumulator *meters* refrigerant and oil back to the compressor at a controlled rate.....even though several pounds of refrigerant may suddenly return through the suction line.....compressors go to work quietly and safely.

Construction of the Suction Accumulator is such that it cannot trap oil and tends to act as a suction muffler to prevent transmission of suction noise.

Just two sizes cover ½ through 7½ H.P. range!



Blue Ribbon Heat Exchangers
Available in sizes from 1/4 through 10 h.p. these competitively priced heat exchangers have parallel fittings sized to match refrigerant lines of standard units.

Bull Dog Filter-Driers
These low cost, quality driers feature progressive filtering.....retain a maximum amount of dirt without pressure drop or plugging up. Available in either Molecular Sieve or Silica Gel desiccant.

REFRIGERATION RESEARCH
INCORPORATED
9901 E. GRAND RIVER BRIGHTON, MICHIGAN
THE "ORIGINAL EQUIPMENT" PARTS MANUFACTURER SINCE 1944

ARE you in need of a "just right" man to fill a slot in your organization—the man you are looking for will be reading the

NEWS' CLASSIFIED ADS

broader applications
wider markets
bigger profits!

WHEN YOU CUSTOM-ENGINEER
REMOTE
WATER COOLERS
by Temprite

Install Temprite Remote Coolers on overhead wall brackets. Save floor space. Connect to multiple bubblers.

For restaurant fast cold water service. Single unit serves extra stations, saves waitress' steps, helps boost turnover.

Ideal for accurate control of water temperature in photo and X-ray processing. 14 to 72 g.p.h. All UL approved.

TEMPRITE PRODUCTS CORPORATION
Box 72-B, East Maple Road
Birmingham, Michigan
Send me data on Temprite Remote Coolers
Company name_____
My name_____
Address_____
City_____ State_____

a cost of 4 cents per serving.

From these figures the terrific profit possibilities in soft ice cream can be easily seen. The same large food savings can be carried on through milk shakes, sundaes, cones, sherbets, etc.

A few years ago dairies which also promoted their own ice cream were little inclined to cooperate in placement of soft ice cream units, feeling that such units would detract from hard ice cream sales. Now, however, with the trends as pointed out previously, it is apparent that soft ice cream is a plus business. It does not do away with hard ice cream sales as they exist today. In fact, soft ice cream can often help sale of packaged hard ice cream.

Most dairies are cooperating so fully that special packing for soft ice cream and for milk shake mixes has rapidly developed. Some companies produce various mixes in ½-gal. paper or plastic cartons, or in 3 or 5-gal. plastic-lined disposable cartons, or in 1-gal. cans.

All of these are more readily stored in quantity and in less space than in the older 5 and 10-gal. cans. This means that any slightly built clerk can readily pour mix into the refrigerated reservoir of the machines. Also, mix refrigerators may be of any size or type. Many refrigerator manufacturers have seized the opportunity to call some of their line "mix storage refrigerators."

Soda fountain manufacturers, with reduced sales in their 100% (hard ice cream) fountains, are developing new and better bobtail fountain units that provide sinks, some carton and bottle storage, soda water and drinks, and flavors and syrups for sundaes and shakes. These fit admirably into a soft ice cream setup.

Some states, like Pennsylvania, a powerful dairy state, have removed all pop and carbonated drinks from schools in favor of milk and nutritious dairy products, shakes, ice cream, etc. For fast serving of hungry scholars nothing approaches the soft ice cream unit, or the freezer-fresh milk shake unit serving directly in a matter of 8 or 10 seconds.

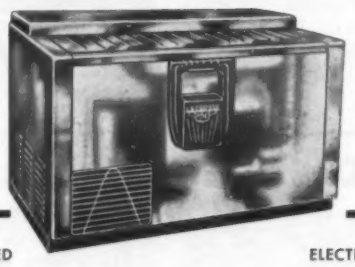
A few years ago our company, having observed the trends through many years, conceived the idea that smaller, much more compact machines were going to be needed if proper coverage of the growing potential were to be attempted. It was apparent if ice cream were to be continued on sale in congested locations and cafeterias, and advantage taken of the potential distribution possible in hundreds of outlets in each city, a reasonable size freezer must be made available.

(Editor's Note: The Brown company developed and is marketing such a line of "Brownie" soft ice cream freezers and shake servers running to 10 models with the smallest being 21 by 16 by 20 in. high operating off 115-volt outlets.)

Your Customers' Best Buy. . .
(and yours, too!)
IDEAL
Speed-Freeze
PRODUCTS
BEVERAGE COOLERS
unexcelled storage capacity with Ice Cube Makers
OUTSTANDING SECTIONAL METAL WALK-IN COOLERS
IDEAL
COOLER CORPORATION
2830 MAGAZINE ST.
ST. LOUIS 6, MO.

GREATER CAPACITY WITH THE LA CROSSE "BLUEBIRD"

STYLED FOR LOW COUNTER APPLICATION



FOR RESTAURANTS, INSTITUTIONS, SCHOOLS

SELF CONTAINED — ELECTRIC COMPLETE

The La Crosse "BLUEBIRD" BOTTLE COOLER is the ideal cooler wherever food or drink is served.

Special "low counter" design (33½" high) . . . available in stainless steel or grey hammertone baked enamel finish . . . top capacity . . . and sound La Crosse engineering throughout.

LA CROSSE COOLER COMPANY
3000 LOSEY BOULEVARD SOUTH, LA CROSSE, WISCONSIN
WALK-IN COOLERS · BEVERAGE COOLERS · DIRECT DRAWS · CUBE MAKERS · DRAINBOARDS
EXPORT OFFICE: 60 EAST 42nd STREET, NEW YORK • CABLE: EXPEDITE

NARGUS Members Plan 10,500 Stores In 1960

CHICAGO—More than 10,500 new food stores will be built in 1960 by members of the National Association of Retail Grocers of the United States, who also expect to purchase $1 billion worth of new equipment, including that for air conditioning and refrigeration.

This was disclosed by a confidential poll among readers of NARGUS *Bulletin,* the monthly magazine published by the association.

The annual survey of members, as revealed in the February issue of the *Bulletin,* further reported that 9,912 retailer members will remodel and expand their present stores.

The food retailer who plans to build a new store this year will spend an average of $96,423 for equipment, an increase of 1% over last year. The average expenditure for land is expected to be slightly lower than last year, as retailers seek locations away from population centers which are now overpriced and overbuilt, it was stated.

Shopping centers are the number one choice of the NARGUS retailer for new store location, with highway property a close second.

Remodeling and expansion of present stores is planned by 15% of NARGUS *Bulletin* readers, to the extent of an average $23,214 per store.

The emphasis in 1960 will be on more space and equipment. Air conditioning will be installed by 18% of the retailers and parking lots will be improved by 11%.

Store owners themselves will decide on building materials and equipment for 67% of the new or remodeled stores, with the architect making only 18% of the decisions and the contractors 14%.

New refrigerated equipment will be a big item this year, with 20% planning to purchase new frozen food cases, and 18% new dairy cases, followed closely by produce cases, 17%; meat cases, also 17%; frozen food storage cases, 15%; and walk-in coolers, 15%.

In contemplated purchases of store machinery, the accent is again on the meat department. New scales are uppermost on the list, with 17% planning their purchase. Slicing machines and meat saws come next, each 12%.

IGA Members Plan $40 Million for New Stores, Remodeling

CHICAGO — Retail members of the Independent Grocers Alliance planned to spend $40 million to build 301 new stores and remodel 462 older ones this year, according to Don R. Grimes, IGA president.

Grimes said the projected building figures indicate IGA retailers will build 98 more new stores in 1960 than they did in 1959. The new stores will cost $20,468,000, it was reported.

Tyler, Robert Becht Co. Merge; Tyler, Airway To Terminate Contract

NILES, Mich.—Tyler Refrigeration Corp., manufacturer of commercial refrigerators, and the Robert Becht Co., Cincinnati, producer of shelving, display equipment, and checkout counters, announced through a spokesman a merger of the two companies.

Airway Products Corp., Schiller Park, Ill., and Tyler Refrigeration simultaneously announced termination of a joint sales agreement when their present contract expires.

Airway, a pioneer in the manufacture of metal shelving and checkstands, is now setting up franchised dealers for distribution of its products after termination of the Tyler contract.

It was stressed by the spokesman for Tyler that although the financial details have been completed and approved, there would be no change in the sales policy by the Tyler organization until contractual arrangements with Airway Products had been completed.

The sales departments of Tyler Refrigeration and the Robert Becht Co. will remain and function exactly as they have in the past, it was stated.

Tyler field representatives and distributors will continue to function in agreement with Tyler's contract with Airway Products. The Robert Becht Co. field representatives will, for the present, be offering only products produced by Becht.

NEW
ENGINEERED SPECIFICALLY for commercial refrigerated applications

NATIONAL LOCK
EDGEMOUNTED LATCH

Latch has roller bolt action. Similar action in other latches has been field tested for the last twenty years. It assures easy opening and positive closing . . . using nylon roller for quiet operation. Latch mounts on either right or left hand doors. Available with or without key locking. Surface-mounted strike is adjustable two ways.

Write For Information

NATIONAL LOCK COMPANY
INDUSTRIAL HARDWARE DIVISION • ROCKFORD, ILLINOIS

Installation & Service Practices In Commercial Refrigeration

One of a group of discussions on several phases of the installation, operation, and servicing of commercial refrigeration equipment.

By Frank J. Versagi

Meat Discoloration

In the Nov. 2, 1959 discussion, heat, light, contamination of air, and low humidity were listed as contributing to meat discoloration. That article treated of the roles of the first two factors. This concluding piece discusses air contamination and low humidity.

Contaminants in the air: this cause of meat discoloration is quite frequent, yet often unrecognized. The chief culprits here are carbon monoxide and ozone.

Carbon monoxide is occasionally found in the store atmosphere where gas unit heaters or gas central heating equipment is used. A good clue that gas may be the ultimate cause of discoloration is the fact that the trouble occurs only in the heating season. Sometimes the CO can come from incomplete combustion; downdrafts can return flue gases into the structure. Actual gas leaks may be at fault.

Interesting Case History

One very interesting case history in this regard is supplied by Sherer of Marshall, Mich. A meat discoloration problem was occurring and was limited to the service meat cases and the walk-in meat cooler. Discoloration was taking place in from two to eight hours. A later segment of the investigation showed that the time required for discoloration varied with the outside wind velocity and temperature.

The condensing units were installed on racks in a cement block enclosure adjoining the rear of the store in such a manner as to achieve the utmost benefit from two large exhaust fans located in the roof of the unit room. The fans operated simultaneously with thermostatically controlled dampers. The thermostat was set to maintain unit room temperature as near 75° as possible.

All refrigeration and electrical lines from refrigerator locations ran through branch trenches to one main trench which ran approximately 30 ft. to the machine room. When the exhaust fans were operating, they drew air through the main trench at a rate of 600 c.f.m., creating enough of a vacuum in the store to cause a downdraft through the stacks of the two central heating systems. Moreover, when outside temperatures became lower, the temperature control in the unit room would cycle the exhaust fans at more rapid intervals, causing the downdraft conditions to increase.

Checking the refrigeration installation and lighting failed to reveal anything which would cause the rapid discoloration being experienced. A carbon monoxide tester showed CO was present in sufficient quantities to cause this condition.

Sealing of the main trench to prevent air circulation between the unit room and the store area alleviated the situation considerably yet contamination was still sufficient to cause pronounced discoloration — this even after the CO content was so low as to be non-detectable with the instrument being used.

The gas company and heating contractor were called in, checked the heating equipment and found all in order.

It was determined, however, that the roof design was such at the stack location that when wind velocities were great enough, turbulence in this area caused downdrafts. To eliminate this source of trouble, the stacks were extended from 2 ft. to 6 ft. above the roof.

To insure complete elimination of downdrafts, a fresh air intake duct was installed to each central heating system. Discoloration of meat is no longer a problem.

Call In Gas Utility, Heating Contractor

Obviously, a wise step for the refrigeration man to take when discoloration is occurring is to call in the gas utility and the heating contractor and accompany them with the necessary instruments to determine the presence of carbon monoxide and/or downdrafts.

Ozone as a culprit is not so common. Motors sparking due to poor contacts between brushes and commutator, improper contact of fluorescent tubes in the sockets, any condition which allows a sparking or electric discharge will generate ozone. If concentrations are sufficient, the ozone will react with the meat and discolor it.

Low Humidity Cited As Another Factor

The other major factor in the discoloration of meat—low humidity—is normally beyond the control of the store operators and more properly falls into the area of responsibility of the refrigeration serviceman.

Basically, if the air immediately surrounding the meat is low in humidity, moisture will be taken from the meat by the dry air through evaporation from the product surfaces. This drying out changes the color of the meat and frequently impairs its flavor.

Relative humidity in a case is not as easily controlled as air temperature. Variables which affect it are adequacy of the refrigeration coil or plate, location of the cold surface, spread of temperature between the refrigerated surface and the air in the case, adjustment of cycling of the unit.

"In a closed display case where various classes of products are held at suggested compromise temperatures of 35-40°, relative humidity should range from 89-90%," states one report.

One of the most important considerations is balance between the machine and the coil it services. The lack of balance which sometimes occurs in winter when refrigeration capacity goes up just when case requirements are down can cause the drying out and discoloration of meat which can be mistaken for carbon monoxide caused discoloration because of the season. When this takes place, adjustments in refrigerant supply, in operating pressures must be made.

Proper air circulation within the fixture is mandatory for proper performance. If the coil becomes clogged with frost, the drip pan is too close to the coils, paper is placed completely over the shelves, or air space between front and sides of the meat platters is blocked—all these will affect air circulation and the freshness of the meats. Manufacturers can cite many instances where elimination of air restrictions has solved high temperature and low humidity problems in fixtures.

D-H Catalog Deals With Commercial Refrigeration

LOS ANGELES — Drayer-Hanson is following up its recent announcement of a 1960 catalog devoted to air conditioning products, with an auxiliary catalog which concerns itself strictly with the commercial refrigeration products offered by the company.

The catalog is being released to coincide with Drayer's 50th anniversary year celebration, this year; is being distributed without charge to qualified planners and contractors, upon direct letter-head-addressed request to the manufacturer.

Contents of the catalog cover the firm's established lines of unit coolers for low-side refrigeration, including "Spasaver," "Hot Shot," "Flocold," "Perma-Fan," and related lines. Copies may be obtained from Drayer-Hanson, 3301 Medford St., Los Angeles 63.

Hotel Exposition Set For N. Y. Nov. 14-17

NEW YORK CITY—Thomas C. Deveau, chairman of the 45th edition of the National Hotel Exposition, announced that the forthcoming Hotel Show will have a record-breaking 645 exhibitors.

The show will be held Nov. 14-17 in the New York City Coliseum where its more than 826 booths will fill completely the four display floors of that building.

Tyler Patent Covers 'Air-Skreen' Items

NILES, Mich. — The U. S. Patent Office has issued to Tyler Refrigeration Corp. Letters Patent No. 2,923,137 covering its sales and storage cooler, manufactured and marketed by Tyler under the registered trade-mark "Air-Skreen," it was announced by Robert L. Tyler, president.

According to Tyler, the patent covers practically all types of multiple-shelf refrigerated merchandising means in conjunction with storage facilities.

FIND · FIX
Refrigerant* Leaks
FAST
with the
PREST-O-LITE
Trade Mark
Refrigeration and Air-Conditioning Outfit

This one handy, compact outfit is all you need to find and fix refrigerant gas leaks. Sensitive leak detector "sniffs" as little as 100 parts of halide refrigerant* in a million parts of air . . . *in seconds*, pinpoints leaks too small to show up in soapy water. Also included in the outfit are 3 sizes of torch stems for open-flame soldering, heating, and brazing; an adjustable gas pressure regulator; interchangeable torch handle; hose; enameled steel carrying case. Models for use with B or MC PREST-O-LITE acetylene tank.

*ASRE numbers 11, 12, 13, 14, 21, 22, 113, 114

$43.00 COMPLETE

PREST-O-LITE air-acetylene equipment and small tanks are available from your local supplier of LINDE products. See him today. Or write for further information to: Dept. 624, LINDE COMPANY, Division of Union Carbide Corporation, 30 East 42nd St., New York 17, N. Y.

"Prest-O-Lite," "Linde," and "Union Carbide" are registered trade marks of Union Carbide Corporation.

WITT LOW TEMP. Defrostair COIL WITH EXCLUSIVE PATENTED Automatic Electric Defrost System

PAT. NO. 2539813 -2492970

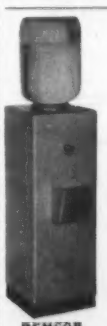
DEFROSTS AUTOMATICALLY

FOR LOW TEMPERATURE ROOMS, FOOD STORAGE, FOOD FREEZING, ICE CREAM STORAGE, INDUSTRIAL LOW TEMP. APPLICATIONS.

Witt exclusive Defrostair patented Heat Trap coil requires only a low cost single pole, double throw time clock for complete automatic defrosting. Easy low cost installation. Requires no re-evaporation or special plumbing. Completely automatic. Available in 21 models ranging in BTU capacities from 1400 to 44,100 at 10°T.D. Write today for complete Witt Catalog.

Defrostair FOR BELOW FREEZING

A. H. WITT COMPANY, INC.
940 N. Sycamore Ave.,
Los Angeles 38, Calif.



REMCOR Model CB-2A

WATER COOLER
5 Gallon Bottle Type
$89.50*
*TO DEALERS ONLY
. . . economical . . . efficient . . . streamlined . . . space-saving . . . ⅓ H.P. Tecumseh hermetic unit . . . five year warranty on refrigeration cycle . . .
Remcor Products Co.
321 E. Grand Avenue,
Chicago 11, Illinois
manufacturers of water coolers since 1940
also available:
pressure type coolers * $139.50
bottle type coolers (with refrigerated storage compartment)

OVER A HUNDRED EAGER BEAVERS

Yes, and everyone is ready, willing, and able to serve you right. For nearly three decades, we have been key suppliers to the trade. 24 of our key people have a total of 504 years' experience in this business. Why not take advantage of their very snappy service.

We're Real Specialists in
REFRIGERATION · AIR CONDITIONING · ELECTRIC MOTORS
SUPPLIES and PARTS

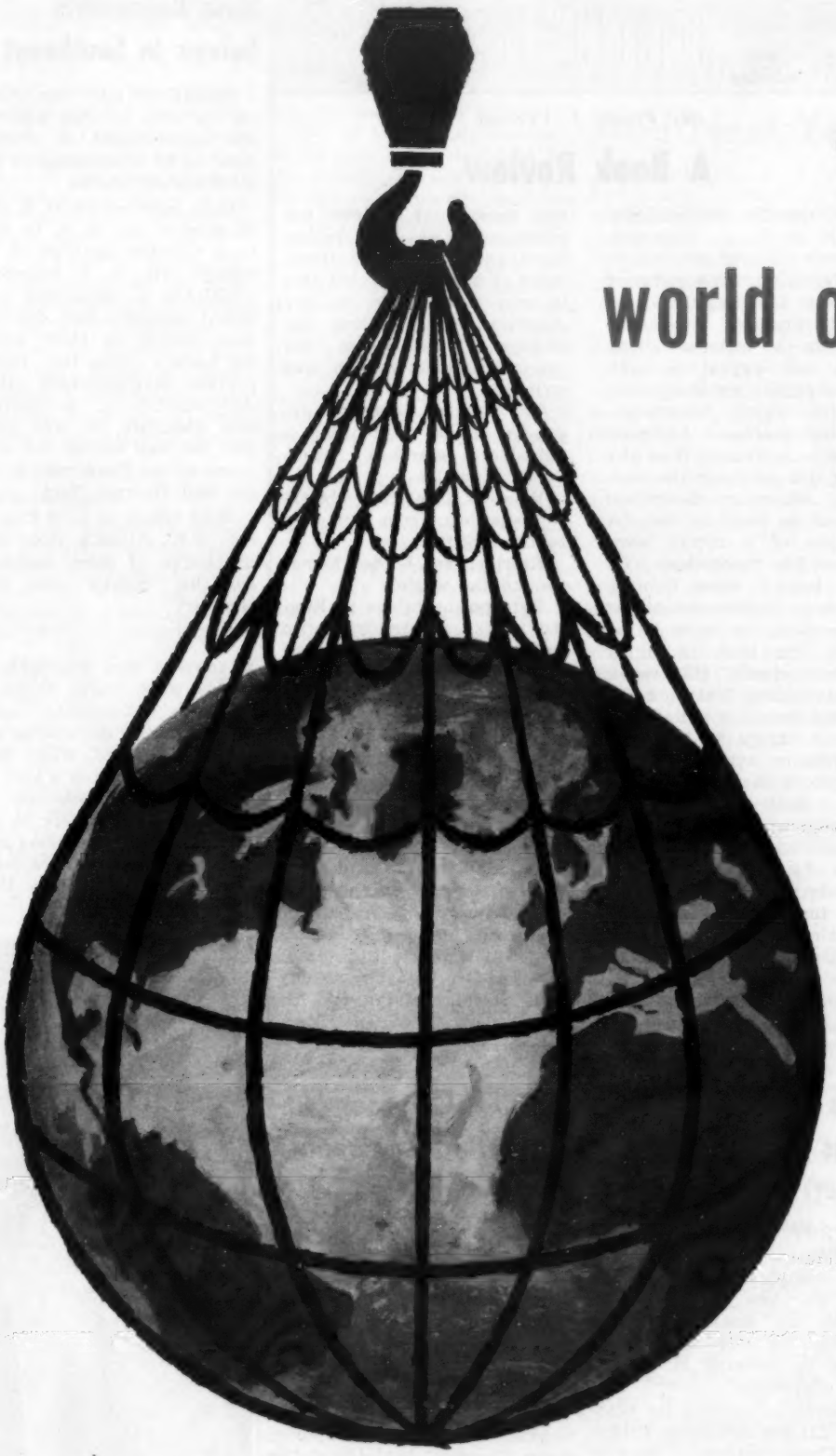
SAVE MONEY, time and effort by ordering from our new *Dependabook*, the most complete catalog of all. 240 pages. Over 10,000 items carried in stock. *Wholesale only.* Your orders filled really fast by mail, or they can be picked up at one of our six big warehouses.

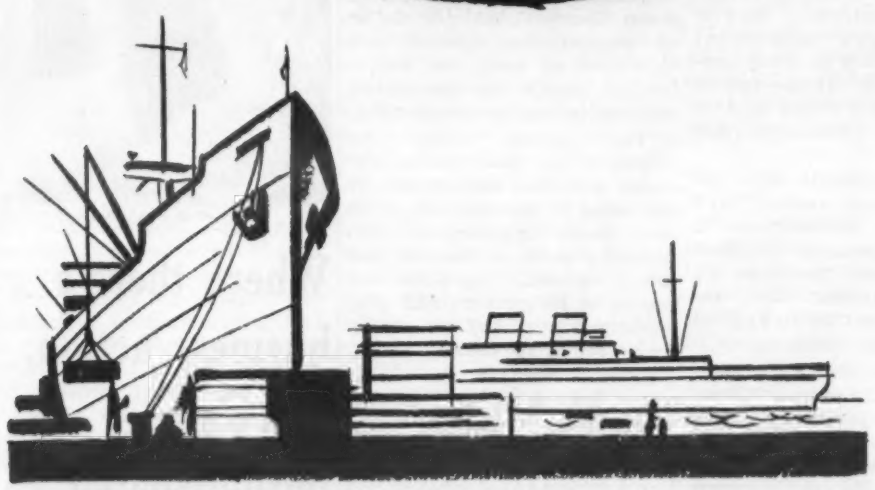
Write on your letterhead for the 1959 DEPENDABOOK . . .
Also our monthly Flyer of surplus and close-out Bargains.

THE HARRY ALTER CO., INC.

1717 S. Wabash Av. Chicago 16, Ill. | 134 Lafayette St. New York 13, N.Y. | 2332 Irving Blvd. Dallas 7, Texas | 695 Stewart Ave., S.W. Atlanta 10, Ga.

FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES





There's a world of business waiting for your company overseas.

Ten years from today the free world's production of goods and services will have doubled.

Ten years from today the free world will have a population of 2,000,000,000.

Ten years from today U. S. exports will be up $8,000,000,000.

Ten years from today foreign sales of U. S. subsidiaries will have doubled to more than $60,000,000,000.

IS YOUR COMPANY TAKING ADVANTAGE OF THIS EXPANSION?

WORLD TRADE ISSUE–AUGUST 1

By advertising in the World Trade issue of AIR CONDITIONING, HEATING & REFRIGERATION NEWS August 1, you can sell subscribers in 51 nations on your products and your services. Or you can attract new suppliers and distributors to sell your products. The free world is one market . . . let your company grow with it.

NEW YORK, 521 Fifth Ave., MUrray Hill 2-1928-9, Robert M. Price
CHICAGO, 134 S. LaSalle St., FRanklin 2-8643-4, Rex Smith
LOS ANGELES, 4710 Crenshaw Blvd., AXminster 2-9501, Justin Hannon
DETROIT, 450 W. Fort St., WOodward 2-0924, Al Schildhammer

AIR CONDITIONING
HEATING & REFRIGERATION
NEWS

The Newspaper of the Industry

RESIDENTIAL • COMMERCIAL • INDUSTRIAL

450 WEST FORT STREET • DETROIT 26, MICHIGAN

Brochure Explains New Pipe Insulation

ST. LOUIS—A new expanded-cell type tube and pipe insulation designed for architectural specifications in areas requiring refrigeration and air conditioning service, is the subject of new illustrated literature now available from the Presstite Div. of American-Marietta Co., 39th and Chouteau, St. Louis, Mo.

"The brochure shows, by means of a microphotographic close-up, what the new material (known as 'Presst-O-Cel') is like—and reveals that it consists of millions of tiny cells, filled with inert gas, to provide a substance completely walled-in against water, moisture, or air," the company said.

Included in the literature are ASTM-specified tests for determining this material's performance as regards water-tightness; its K factor (heat conductivity); oil, acid, and alkali resistance; weight; inflammability; density; resistance to oxidation and deterioration due to age, etc.

N. Y. Firms Combine Service Departments

LONG ISLAND CITY, N. Y. —Cort Mechanical Corp. and Temperature Design Corp. announced the conclusion of arrangements for the two firms to operate jointly.

Both companies will maintain their corporate identity.

A new service corporation has been formed to combine the service departments of both companies, under the name of Temperature Service Corp. The companies will operate from offices located at 103 W. 30th St., New York City.

It's so easy!

Get Sparkling Clear, Conditioned Water with KARLSONITE*

HALTS CORROSION and SCALE DEPOSITION

Prevents Rust Stains on Equipment

KARLSONITE phosphate water conditioner holds minerals and metallic elements in water in perfect suspension, preventing clogging deposits that reduce efficiency of boilers, heat exchangers, cooling towers, etc.

Water for human consumption, too, is vastly improved. Crystal-clear, tasteless and non-toxic, it produces no deposits or rust stains in ice cubers, coffee urns and other equipment in most cases . . . when conditioned with KARLSONITE.

An easily installed KARLSON dispenser feeds KARLSONITE into the system automatically. With no moving parts, maintenance is nil. Only occasional replacement of the conditioner is required.

With KARLSONITE, it's so easy to get the most and the best out of your water system. The cost? Amazingly low. Why not investigate?

Write for full information

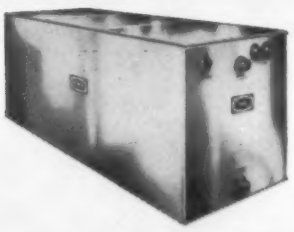
STILES-KARLSONITE CORPORATION

1552 GRAND AVENUE • WAUKEGAN, ILLINOIS

*Reg. U. S. Pat. Off.

WATER CONDITIONING COMPOUNDS AND EQUIPMENT

LATENT HEAT STORAGE FOR AIR CONDITIONING



• CHURCHES
• THEATRES
• CAFETERIAS
• MORTUARIES
• OFFICES
• LODGE HALLS

• LOW INITIAL INVESTMENT
• ECONOMICAL OPERATION

Ice-Cel UNITS

DOLE REFRIGERATING COMPANY

5920 NORTH PULASKI ROAD, CHICAGO 46, ILLINOIS

103 PARK AVENUE, NEW YORK 17, N. Y.

Dole Refrigerating Products Limited, Oakville, Ontario, Canada

Write for Engineering Catalog BAE

DEPENDABLE AIR CONDITIONING

DOLE Ice-Cel LINE

TECH CENTER

By Frank J. Versagi

A Book Review

AUTOMATIC REFRIGERATION by S. A. Andersen, professor of refrigeration in the Technical University of Denmark (In English).

It is probably impossible to write a technical book which will appeal to both the slightly knowledgeable and the highly knowledgeable, but professor Andersen has come as near to it as any writer this reviewer has read.

The discussion of critical point is as lucid as the description of a rotary compressor; the theoretical principles behind valve hunting become as understandable as the necessity for moisture removal. The book is highly and competently illustrated, an outstanding feature being two and three-color diagrams of such things as controls, compressors, systems. As an example of the maximum effect of such illustrations, a colored diagram and a natural colored cutaway photograph of a hermetic compressor side by side, give an almost tangible conception of operating parts and their functions.

The treatment of basic refrigeration and its applications is very well done for the most part. There are weaknesses as the rather brief and generalized treatment of heat pumps, but this is more noticeable to the American reader than the European, for whom the original Danish version was written.

The tabular data and appendix, alone, make this a valuable reference work. Some examples:

Weather data from Algeria to Venezuela, from Australia to the USSR,

Refrigerant trade names around the world,

Refrigerant tables in English units, repeated in metric units,

Refrigerant enthalpy charts in three colors—very readable, supplied in a separate folio.

An extensive bibliography which includes sources from all over the world.

"Automatic Refrigeration" costs $13.50 in the United States and Canada. American subscribers may purchase the book from the NEWS. Canadians may order it from Refrigeration Press, Ltd., Maclaren House, 131 Great Suffolk Street, London S.E. 1, England.

Crane Withdraws Briggs Offer, Seeks To Elect Directors

DETROIT—Because of a Federal Trade Commission anti-trust complaint against it, Crane Co. has withdrawn its offer to buy assets of Briggs Mfg. Co. for $14 million, according to Thomas M. Evans, Crane chairman.

However, to protect its holding of 231,674 shares of Briggs stock, Crane "intends to seek to elect the Briggs [seven-man] board of directors as many persons as possible" at the annual meeting June 17, Evans said. A list of seven candidates was submitted.

These developments were disclosed in Crane's answer (and supplementary affidavit) to a million-dollar damage suit filed recently against the firm by Briggs management. The answer was filed with Federal Judge Theodore Levin here.

Evans said the FTC complaint placed Crane in a "dilemma" and the proxy fight was necessary because of Briggs' "precarious and declining financial position." He acknowledged that Crane was trying to acquire Briggs but denied Briggs' charges that public reports of the acquisition attempt caused Briggs a $350,000 loss in orders. Briggs asked triple damages.

Last week, a hearing was started on a request by Briggs for a court injunction to prevent Crane from voting its shares. No decision had been made by the court at press time.

Heating Changes Hit Operating Engineers

PORTLAND, Ore. — Changes in heating methods have eliminated the need for operating engineers at the four major downtown theaters, according to the theater operators.

They so indicated after the theaters were struck by operating engineers from Local 87, IUOE (AFL-CIO).

One of the operators, Rex M. Hopkins, manager for the Evergreen Theaters, said the duties of the operating engineer used to consist of firing the boilers for the plant's heating system and controlling temperatures.

"For several years," he pointed out, "we've bought steam and the temperature is controlled by thermostats so the jobs have degenerated into turning a valve at the start and end of a shift. Actually, the two we've let go were well over retirement age, and we simply aren't replacing them."

Hopkins claimed the strike wasn't authorized by national headquarters of the local union.

Trying to find the right man for a hard-to-fill vacancy—the NEWS' Classified Ads are read by your man.

Place your ad today!

Rose Represents Solvex In Southeast

BIRMINGHAM, Ala.—Chemical Solvent Co. has announced the appointment of Peter A. Rose as its representative in the southeastern states.

Rose received his B. S. degree in physics and M. A. in science from Georgia Institute of Technology. He is a member of ASHRAE, a registered professional engineer, and, during the past decade as chief engineer for Larkin Coils, Inc., held important chairmanships with the Air-Conditioning & Refrigeration Institute, it was pointed out. He has served for several years at the University of Georgia and Georgia Tech.

With offices at 3230 Peachtree Rd., N.E., Atlanta, Rose will be in charge of sales engineering for the "Solvex" line in his territory.

If you're a man who takes pride in his work, you're a man who reads his businesspaper carefully. Cover to cover. Advertising as well as editorial pages. Why? Because —as a man who gets a kick out of doing a great job—you know there's no better place to get so many good, practical ideas you can put to work with extra profit to yourself, and your firm, than in . . . your businesspaper.

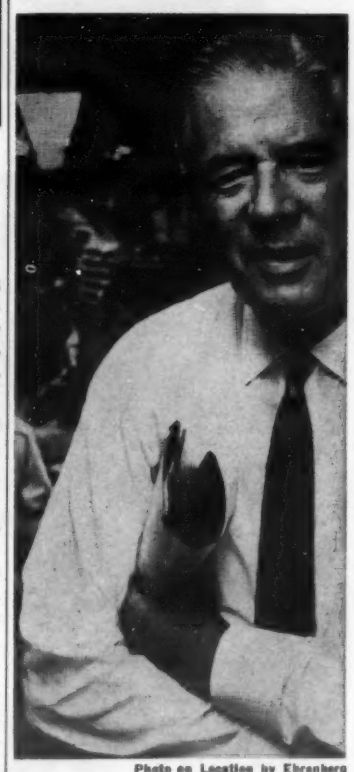


Photo on Location by Ehrenberg

Where there's business action, there's a businesspaper

. . . and where there's cooling and heating business, there's

AIR CONDITIONING, HEATING & REFRIGERATION NEWS

Dealers Battle Gainesville Proposals--

(Continued from Page 1, Col. 4)

points out, that if an electrical outlet were needed for a 1-hp. room unit, it would have to be installed by a licensed electrician, and the installation of an electric water heater would require the services of both an electrician and a plumber.

Some progress in hammering out a compromise in the overlapping jurisdictional questions raised by such appliances is being made in committee discussion, but complete agreement has not been reached and no changes have as yet been written into the proposed codes.

Concessions Made By Electricians

It has been agreed in principle, for example, that an existing electric water heater could be replaced by either an appliance dealer, an electrician, or a plumber if no new wiring or piping is involved.

Electricians have also agreed that others may install an outlet and run wiring to a "disconnect," but they are unwilling, at this time at least, to permit anyone except an electrician to connect into a distribution panel.

This stand of the electricians is being opposed by appliance and air conditioning dealers, who emphasize that they have no desire to do wiring, or plumbing for that matter, except as directly related to the appliances in question.

Reaching a compromise on the matter of appliances will also involve the question of permit fees, it was brought out in a recent meeting of chairmen of the three code committees (air conditioning, electrical, and plumbing) with the city inspector, Curtis Edge.

Permit Costs Would Vary According to Who Did Installing

An appliance dealer would require a permit costing $5 to install a 1-hp. air conditioner, but an electrician would have to pay only $2 for a similar permit if he made the installation, under the proposed codes.

Proposed revisions in the Gainesville plumbing code, originally adopted two years ago, would adopt, with some exceptions, the national ASA plumbing code No. A40.8-1955.

The city voted an electrical code into effect in January of this year, and the revisions under consideration are based on 1959 national electrical code.

Air conditioning, heating, and ventilating code being proposed is essentially that adopted recently by Decatur, Ga. No qualifications are spelled out for a license, which would cost $150, but it is pointed out that the state of Georgia does set up qualifications for contractors engaged in heating, ventilating, and air conditioning.

Installation permit fees on air conditioning and refrigeration would range from $5 for a 1-hp. unit to $67 for 100 hp. Heating permits would cost from $10 for up to 150,000 B.t.u. to $50 for 2,001,000 B.t.u. and higher.

Revenue to the city from these permit fees, intended to support inspection costs, were estimated by L. D. Lawson, board chairman, in a letter to the city manager as follows:

"We of the board have estimated that there would be approximately 500 heating jobs in the city of Gainesville per year with approximately 300 of these jobs to be under 150,000 B.t.u. at $10 per permit or $3,000 fees for the city. One hundred fifty of the total 500 jobs to range from 150,000 to 200,000 B.t.u. at $12.50 each or a total of $1,875 for the city, and 50 jobs in excess of 200,000 B.t.u. that we consider would average $20 per permit or a total of $1,000.

"We have estimated that there would be approximately 150 window type units sold in Gainesville at a fee of $5 each or a total of $750 for the city, and 50 air conditioning jobs other than window units that would average $8 each or a total of $400 to the city.

"We have also estimated that there would be approximately 50 range hoods installed in Gainesville each year, with an average of $7 permit fee or $350 to the city.

"We have estimated 50 ventilating blowers and circulators for commercial buildings to average $9 each or a total of $450 to the city.

"We estimate 25 commercial and residential incinerators and barbecue pits at $5 each or a total of $125 to the city.

"License fees based on current charges, $750.

"All permits, fees, and licences, come to an estimated total of $8,700."

Whether all these fees from permits would actually materialize is questioned by some, such as Romberg. He believes many people will install room air conditioners themselves rather than pay the permit fee that would be required if a dealer made the installation.

For this reason, among others, Romberg and other dealers have proposed "that the appliance industry be granted the following fringe areas to operate in:

"1. Plumbing: Disconnect and reconnect water from appliance; run exposed water lines to appliance; disconnect and reconnect appliance from drainage, connect appliance to drainage as long as no soil pipe work is involved.

"2. Electrical: Disconnect and reconnect appliance from power supply; check appliance circuits and repair failures; run branch circuit to appliance from existing distribution point.

"3. Other: Integral self-contained units (such as window air conditioner) to be classified as appliance. Commercial refrigeration relating to coolers, displays, refrigerators, etc. (as opposed to industrial and central system refrigeration) to remain within the province of appliance service.

"We feel that these requests are reasonable and that the benefits to be obtained in promptness, convenience, and economy to the public greatly outweigh possible hazard to health and safety. The continuance of these traditional privileges will strengthen the appliance industry without injury to any parties."

Dixon Will Add Hydrofluoric Acid Next Year

PAULSBORO, N. J.—Hydrofluoric acid—a chemical used in the manufacture of refrigerants—and for other uses—will be added early next year to the growing product list of Dixon Chemical Industries, Inc.

Arthur W. Dixon, Jr., president, made this announcement in disclosing that the company had signed contracts covering the construction of a $3½ million hydrofluoric acid plant on its 70-acre tract here. The construction timetable calls for ground-breaking in the immediate future and completion early in 1961.

The new Dixon plant represents one phase of a long-range program to upgrade the company's chief product, sulfuric acid. It will be built next to Dixon's 300,000-ton sulfuric plant and will consume 30,000 tons of the basic chemical to product 11,000 tons of hydrofluoric annually.

A co-product, 45,000 tons of high quality anhydrous calcium surfate, will also be produced and marketed, the company said. Its major uses are in the building trades industry.

Atlanta Proposals--

(Continued from Page 1, Col. 5)

A heating and air conditioning contractor raised objections to loose wording of the code, specifically the term "piping system," which he said could be interpreted to include gas piping, condensate drain lines, and even refrigerant lines.

This is the third time in recent years that a revision of the city's 1949 code has been attempted.

First public hearing was held the previous Tuesday by the public works committee No. 2 of the Board of Aldermen, but there was little advance notice of either that or the second hearing, charged several of those present.

Only 30 copies of the proposed new code had been prepared, city officials admit, and some individuals complained that they hadn't been able to obtain a copy for study until the night before the second hearing.

Some plumbers present at the second hearing urged the adoption of the proposed code as it now stands with any amendments needed to meet objections to be made later.

The proposed new code was described by some favoring it as being "merely a modification of the 1949 code and its subsequent interpretations," but obviously neither the existing code nor rulings under it set up such requirements as reporting appliance sales to the city.

REPRINTS
SELLING FOR PROFIT.
By Frank Klein—Only $1.00 ea.
Clip this ad and mail with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

Lau Acquisition--

(Continued from Page 1, Col. 2)

and wall-hung medicine cabinets.

"Viking will be designated as the Viking Air Products division of Lau Blower Co. "The Cleveland plant will remain in operation and we do not contemplate any major changes at this time. This will be our fourth plant, adding to our facilities in Dayton, Kitchener, Ont., and Irwindale, Calif."

(In a separate announcement on the transaction, Crane Co. in Chicago noted that Viking "has done a sizable volume of business with Sears, Roebuck & Co. for the past 20 years, currently supplying Sears with the Homart line of humidifiers." Started in 1935 as the Viking Air Conditioning Corp., the firm was acquired by Crane Co. last February as part of National-U. S. Radiator Corp.)

7-Day Outlook--

(Continued from Page 1, Col. 2)

develop on both Coasts early in the week. Rain is due in the eastern Gulf Coast area early in the week and will move up the Eastern seaboard, leaving sultry weather behind it, with increasing relative humidity to the Ohio River valley.

The storm condition on the West Coast is expected to develop in the Pacific Northwest, and will move eastward slowly. Hot weather is predicted in the southwest and Plains states.

By the start of Memorial Day weekend a high pressure area is expected to bring clear skies and normal temperatures to the northeast, while the midwest will have quite warm weather with showers a possibility. Thunderstorms and cooler weather is a possibility in the southeast over the holiday weekend.

"ScottFoam is very easy to fabricate," states Mr. Perlman. "In fashioning this pouch-like filter, we first cut the rolls of ScottFoam with a hot wire to required sizes . . . and then heat-seal or sew."

With SCOTTFOAM* . . . Auto-Flo builds sales appeal into its new filters

"Whether you're a filter distributor or a manufacturer of air handling equipment, you will like the way this filter performs," says Milton Perlman, President of Auto-Flo Corporation, Detroit, Michigan. "And ScottFoam is one big reason for its success.

"Here are three benefits which make this one of the most merchandisable filters on the market:

"RE-USABLE — It's easy to clean ScottFoam filter media. All the housewife has to do is remove the filter from her unit, wash and replace it.

"VIBRATION-FREE — There's no contact between the filter frame and the unit itself. Two sheets of ScottFoam are sewn together like a pouch with a zipper on one side. A metal frame is then placed *inside*.

"NO AIR LEAKAGE — Because of ScottFoam's unique pore arrangement, there is no strand displacement — this means no open channels developing like conventional filters."

You, too, can build sales-appeal into your air handling products by using long-lasting ScottFoam filters. To see how, write for your copy of the booklet, SCOTTFOAM FILTER MEDIA. It's yours free for the asking; just mail the coupon.

Send for this free booklet to see how long-lasting ScottFoam filters can be adapted to your products to give them added sales features.

Manager, Industrial Sales, Foam Division
Department B-2, Chester, Pa.

Name_____
Title_____
Company_____
Address_____
City_____ Zone_____ State_____

SCOTTFOAM
another product of research by
Scott Paper Company

*T.M. Patent Pend.

MCAA Report--

(Continued from Page 1)

the next highest category with 30.16%.

For corporations doing mechanical contracting work air conditioning accounted for 48.92% of the total billings compared with 42% in 1958. Plumbing accounted for 17.12% of the business done by those contractors with a corporate setup.

In its formal resolutions, MCAA (1) pledged the assistance of the national organization to local MCA groups in labor negotiations and (2) defined more specifically the exact type of assistance the MCAA will provide for the National Construction Apprentice Training program.

The contractor group reportedly considered, but did not act upon a resolution which would have asked architects and engineers to take more care in writing job specifications which would have asked architects and engineers to take more care in writing job specifications which the mechanical contractor must follow on the job.

In a report from R. S. Doherty on the activities of the Better-Heating-Cooling Council, composed of manufacturers of hydronic heating and cooling equipment, and the MCAA, NAPC, and the United Association, the contractors heard that the council is taking more aggressive steps to tell the "positive" story of the benefits of hydronic systems.

Hydronics Field Not Losing Ground

The hydronics field is not losing ground — an over-all increase of volume done in this equipment of 10% was reported last year—but it does face "aggressive competition," Doherty said, mainly from electric heat, which is backed by "big business" interests.

One area of jobs in which electric heat has been particularly prominent has been in public schools, but Doherty claimed that in 90% of the installations of electric heat for schools, some member of the school board had been found to have had some type of interest in the use of electric heat.

New promotional material is being developed for the commercial and industrial division of the B-H-C, and this will include a comparison of costs for a Minnesota school building, using various types of heating systems, Doherty stated.

Positive Promotion Materials Planned

Also being prepared are "positive" promotion materials telling of hydronic system use in modern commercial buildings, schools, and apartment houses. Planned too is a market research study on the penetration of electric heat in the commercial and industrial market. A publicity packet on modern hydronics systems is being distributed to 850 local and school publications.

The statistical survey turned up some other interesting data. The "medium volume" contractors ($250,000 to $500,000) showed the best performance in terms of net income in the corporate category figures for corporations showing an increase to 2.49% from 1.96%.

For individually and partnership operated organizations, the best showing was in the larger volumes, with the over $1 million class showing an increase to 3.9% from 3.26%, and the $500,000 to $1 million category recording a gain to 6.32% from 5.71% net income in 1958. Both the $250,000 to $500,000 and the under $100,000 classes showed decreases.

Total overhead costs for corporate setups was 11.58% and for individuals and partnerships was 11.65%. Subcontracts accounted for 16.96% of the cost of job billings for corporations, and 11.57% for individuals and partnerships.

Average Net Worth Set at $265,946

Average net worth of all contractors replying to the MCAA survey was $265,946 and average annual volume of sales was $1,542,799.

A resume of the various fiscal closing dates showed that 62% reported on a calendar basis in 1959, as compared to 60% in 1958. Of those replying, 69.32% used the straight-line method of depreciating capital assets, 23.44% used the declining balance method, and 5.69% employed the sum of the year's digits.

In the matter of providing deferred compensation plans for salaried employes, the survey showed that 20% were offering pension plans, 27.23% were offering profit sharing plans, and 46.81% were offering health and accident plans.

In his talk to the contractors, UA General President Peter T. Schoemann lauded the work of the Joint Industry Program Committee in handling problems in which both contractor management and labor were involved.

In the understanding on temporary heat reached by the committee, it was made clear that the decision on whether to have temporary heat or cooling is entirely in the hands of the owner, architect, engineer, or contractor but that, whenever temporary heating or cooling is used, it must be manned by UA members.

Federal Construction

Another area in which the Joint Committee is working is in the matter of construction on Federal projects, particularly those in the missile program.

While success was achieved with the Army Missile plant at Redstone, Ala. in getting contracted out all work claimed as construction, Schoemann said that problems continue with missile programs which the Air Force has with large aircraft companies.

"These installations require extensive and intricate new construction work—piping, fuel, and instrumentation systems installed at the launching site to service these missiles. The government seems to be allowing a great deal of this construction to be performed by the aircraft companies themselves.

"Up until the present time this work at the job site—no matter how experimental it may be—has always been regarded as the work of the specialty contractor. But today this pattern is being reversed by government agencies. Here again we are proceeding on a joint basis to grapple with the problem. We have a special committee of the Construction Industry Joint Conference assigned to this matter."

New MCAA president is Joseph S. Kearney, Northwestern Heating & Plumbing Co., Evanston, Ill.; senior vice president is Frank A. McBride, Frank V. McBride Co., Paterson, N. J.; and treasurer is Leon Munier, Wolf & Munier, New York City. Under the change in the constitution, Thomas J. Ryan, who has been executive secretary, is now executive vice president of the association.

Comparative Operational Percentages of the 1959 and 1958 Annual Statistical Surveys

—From MCAA Statistical Survey.

Individuals and Partnerships

	TOTAL ALL CLASSES 1959	1958
GROSS BILLINGS	100.00	100.00
Cost of Job Billings		
(A) Beginning Inventory	3.55	3.27
(B) Purchases—Material and Apparatus	45.81	43.79
(C) Subcontracts	11.57	15.11
(D) Productive Field Payroll	26.63	24.66
(E) Misc. Direct Job Costs	.93	2.06
Sub-Total	88.49	88.89
Less: Ending Inventory	4.34	3.49
Total Direct Job Costs	84.15	85.40
Total Overhead Costs	11.65	9.18
Total Direct Job and Overhead Costs	95.80	94.58
Net Income From Operations	4.20	5.42
Misc. Other Income (1959 Only)	.79	....
Net Income Before Fed. & State Taxes	4.99	5.42

Corporations

GROSS BILLINGS	100.00	100.00
Cost of Job Billings		
(A) Beginning Inventory	3.36	3.41
(B) Purchases—Material and Apparatus	42.63	41.98
(C) Subcontracts	16.96	17.27
(D) Productive Field Payroll	25.31	24.67
(E) Misc. Direct Job Costs	2.05	2.17
Sub-Total	90.31	89.50
Less: Ending Inventory	3.85	3.44
Total Direct Job Costs	86.46	86.06
Total Overhead Costs	11.58	11.38
Total Direct Job and Overhead Costs	98.04	97.44
Net Income From Operations	1.96	2.56
Misc. Other Income (1959 Only)	.33	....
Net Income Before Fed. & State Taxes	2.29	2.56

Comparative Statistical Results of the 1959 and 1958 Annual Survey

—From MCAA Statistical Survey.

Individuals and Partnerships

	TOTAL ALL CLASSES 1959	1958
Overhead Expressed as a Percentage of		
Gross Sales of Billings	11.65	9.18
Direct Job Costs Incl. Subcontracts	13.84	10.76
Direct Job Costs Excl. Subcontracts	16.05	13.07
Method of Accounting		
"Percentage of Completion"	61.54	57.69
"Completed Contracts"	38.46	42.31
Net Worth		
Average in Dollars	$120,683	$120,487
Net Income on Net Worth	31.44	31.36
Net Income Before Federal & State Taxes	4.99	5.42
Ratio of Sales to Net Worth	6.31*	5.79*
Percentage of Sales Made in—		
(a) Air Conditioning Excl. Sheetmetal	47.33	43.46
(b) Sheetmetal	5.84	5.36
(c) Plumbing	30.16	26.57
(d) Industrial Piping	11.08	18.16
(e) Other	5.59	6.45
Plant Facilities and Fabrication Expressed In Percentage of Replies		
(a) Having a Pipe Fabrication Shop	44.75	40.35
(b) Having a Sheetmetal Fabrication Shop	26.47	21.05
(b) Preferring to Fabricate—in the Shop	42.86	50.00
(a) Preferring to Fabricate—on the Job	57.14	50.00
(d) Owning Main Office Space	62.20	47.37
(d) Renting Main Office Space	37.80	52.63
(e) Owning Shop and Warehouse	59.76	49.12
(e) Renting Shop and Warehouse	40.24	50.88
Percentage of Leased Equipment		
(a) Vehicles	3.05	4.60
(b) Construction Equipment	5.68	5.36
(c) Office Equipment—1959 only	2.50	....
Percentage of Owned Equipment		
(a) Vehicles	96.95	95.40
(b) Construction Equipment	94.32	94.64
(c) Office Equipment—1959 only	97.50	....
Miscellaneous		
Number of Replies Used in Compiling this Survey	41	60
Number of Replies Discounting Bills Regularly	40	49
Average Collection Period in Days (Note 1)	59	65
Average Accounts Receivable	$117,078	$117,022
Average Advertising Expenditures	2,022	2,159

*Times.

Note 1: For Purposes of Determining the Average Collection Period, All Sales Are Assumed to Be Credit Sales.

Corporations

	TOTAL ALL CLASSES 1959	1958
Overhead Expressed as a Percentage of		
Gross Sales or Billings	11.58	10.29
Direct Job Costs Incl. Subcontracts	13.39	11.74
Direct Job Costs Excl. Subcontracts	16.66	14.77
Method of Accounting		
"Percentage of Completion"	52.02	30.00
"Completed Contracts"	47.98	70.00
Net Worth		
Average in Dollars	$288,744	$689,386
Net Income on Net Worth	13.39	16.24
Net Income Before Fed. & State Taxes	2.29	2.37
Ratio of Sales to Net Worth	5.84*	6.85*
Percentage of Sales Made in—		
(a) Air Conditioning Excl. Sheet Metal	48.92	42.00
(b) Sheetmetal	7.58	11.31
(c) Plumbing	21.81	16.33
(d) Industrial Piping	17.12	25.00
(e) Other	4.57	5.36
Plant Facilities and Fabrication Expressed In Percentages of Replies		
(a) Having a Pipe Fabrication Shop	46.82	59.52
(b) Having a Sheet Metal Fabrication Shop	22.99	35.90
(a) Preferring to Fabricate—In the Shop	39.89	58.54
(b) Preferring to Fabricate—On the Job	60.11	41.46
(a) Owning Main Office Space	43.46	48.81
(b) Renting Main Office Space	56.54	51.19
(a) Owning Shop and Warehouse	44.27	46.19
(b) Renting Shop and Warehouse	55.73	53.81
Percentage of Leased Equipment		
(a) Vehicles	7.08	13.62
(b) Construction Equipment	10.91	15.82
(c) Office Equipment—1959 Only	1.75	7.14
Percentage of Owned Equipment		
(a) Vehicles	92.92	86.38
(b) Construction Equipment	89.09	84.18
(c) Office Equipment—1959 Only	98.25	92.86
Miscellaneous		
Number of Replies Used in Compiling this Survey	207	40
Number of Replies Discounting Bills Regularly	187	38
Average Collection Period in Days (Note 1)	66	67
Total Business Signed Up in Each Period	$291,301,220	$184,416,267
Average Accounts Receivable	298,842	857,684
Average Advertising Expenditures	2,443	5,105

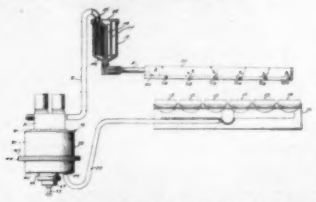
*Times.

Note 1: For Purposes of Determining the Average Collection Period, All Sales Are Assumed to Be Credit Sales.

PATENTS

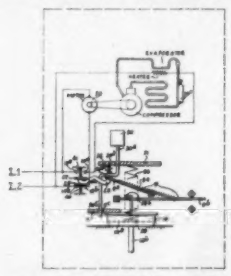
Week of Dec. 29

2,918,803. AUTOMATIC ICEMAKER. Carl C. Bauerlein, Lincolnwood, and Mullapudi M. Reddi, Chicago, Ill., assignors to The Dole Valve Co.



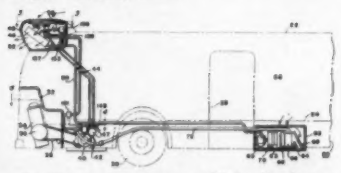
1. In an automatic icemaker, a tray, an invertible mold secured to said tray and normally in a concave water receiving condition, metering means for filling said mold with a measured volume of water, and fluid pressure means operated by the pressure of filling said metering means for supplying fluid pressure to the underside of said mold, to invert said mold into a convex condition and eject an ice cube therefrom.

2,918,804. CIRCUIT CONTROLLING DEVICE FOR REFRIGERATING APPARATUS. Marion M. Iglehart, Wauwatosa, Wis., assignor to Cutler-Hammer, Inc., Milwauke, Wis.



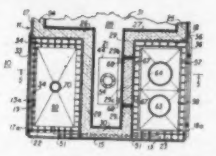
1. A semi-automatic, fail-safe, defrosting control device for electric refrigerators and the like, comprising a two-position, snap-acting switch, a pair of electric circuits alternatively controlled thereby, a thermally responsive power element comprising a shallow cup portion and movable diaphragm spaced apart from and overlying the bottom wall of said cup portion, said diaphragm having its center portion normally self-biased toward the open end of said cup portion and into operative association with a portion of said switch. . . .

2,918,805. REFRIGERATING APPARATUS. Hans O. Schjolin, Birmingham, Mich., assignor to General Motors Corp., Detroit, Mich.



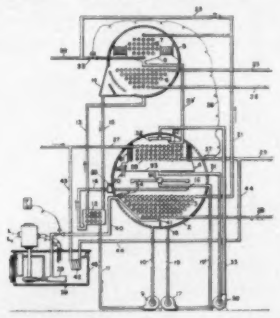
4. In a passenger vehicle having a passenger compartment provided with a floor and a roof, a driving means for said vehicle located adjacent said floor, a condenser compartment adjacent the roof of said vehicle having a top opening and a second opening, an air conditioning means for said passenger compartment including a compressor located adjacent said driving means and a condenser located in said condenser compartment and an evaporating means located adjacent said passenger compartment. . . .

2,918,806. RAILWAY REFRIGERATOR CARS. John P. Krause, Jr., Hammond, Ind., assignor to General American Transportation Corp., Chicago, Ill.



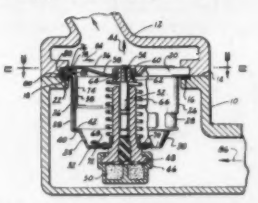
1. In a railway refrigerator car, substantially box-like wall structure including a floor and a roof and a pair of opposed end walls and a pair of opposed side walls, heat-insulating structure arranged within said wall structure and defining an elongated lading compartment and also a communicating bay disposed at one end of said car, said heat-insulating structure also cooperating with said wall structure to define a pair of chambers also disposed at said one end of said car. . . .

2,918,807. ABSORPTION REFRIGERATION SYSTEMS OF THE INTERNAL COIL TYPE. Louis H. Leonard, Jr., East Syracuse, N. Y., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware.



1. In an absorption refrigeration system, the combination of a generator, a condenser, a shell containing an absorber and an evaporator, vapor from the evaporator flowing to the absorber to be absorbed by solution therein, the absorber including a plurality of tubes through which cooling medium is passed in heat exchange relation with solution and vapor exteriorly of the tubes, a pan-like member in the shell cooperating with the shell to form the evaporator, said member being disposed above the tubes in the shell. . . .

2,919,069. THERMOSTAT. John S. Freismuth, St. Clair Shores, Mich., assignor, by mesne assignments, to American Radiator & Standard Sanitary Corp., New York, N. Y.

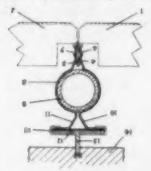


1. In an engine cooling system, wall means forming a passageway for engine cooling fluid; a first cup positioned in said passageway with its end wall upstream from its side wall; said end wall being imperforate to prevent fluid flow therethrough; an inlet opening in said cup side wall; a second cup facing said first cup and slidably telescoped therewithin; an outlet opening in the end wall of the second cup; a container positioned on the upstream face of the first cup end wall. . . .

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Address orders to: Commissioner of Patents, Washington 25, D. C.

2,919,117. AIR CONDITIONING SYSTEM. Leon A. Hoffman, Paris, France.



1. In an air conditioning system, the combination of, a building ceiling, a cylindrical pipe disposed parallel to and beneath said ceiling, panels disposed parallel to said ceiling and beneath said pipe, said panels having upwardly extending flanges and a metal support for holding both said panels and said pipe, said support comprising a flat top section disposed parallel to said ceiling, means to secure said section to said ceiling. . . .

(To Be Continued)

RAC Price Reporter Covers Refrigeration, Cooling, Heating

MANHATTAN BEACH, Calif.—Now in circulation, the RAC Price Reporter lists and illustrates parts and supplies used by refrigeration, air conditioning, and heating contractors, it has been announced.

More than 325 manufacturers' products are listed and illustrated in the loose leaf binder. It can be used in the office or taken right to the job if necessary, the announcement pointed out. Sample sheets will be furnished by the publisher on request.

Catalog Lists Uses Of 'Genafoam' Board

PORTSMOUTH, Va. — A 10-page catalog listing the uses and physical properties of "Genafoam," said to be a "high-quality, economical" expanded polystyrene foam board, is being made available by General Foam Plastics Corp.

"Use of this material is recommended for maintenance of low temperatures, which makes it especially useful in the construction of cold rooms," the company said. "In addition, Genafoam has a low 'K' factor and is non-absorbent, which makes it an excellent water and water-vapor barrier. Details of its use indicate that it is a low-cost permanent installation."

Most of the suggested applications in the booklet utilize the rigid form of Genafoam. However, it is also available in a flexible roll for use as a packaging material or as an insulator for water tanks and pipes.

Copies of the booklet on this non-toxic, non-abrasive plastic may be obtained by writing to Genafoam, General Foam Plastics Corp., 801 Mount Vernon Ave., Portsmouth, Va.

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING, HEATING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on residential, commercial, and industrial air conditioning, heating, and refrigeration for contractors, dealers, consulting engineers, distributors, servicemen, and manufacturers. Read the industry's only newspaper every week—you'll profit by it—only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10 per year.

AIR CONDITIONING, HEATING & REFRIGERATION NEWS
450 W. Fort St., Detroit 26, Mich. 5-23-60

Send the NEWS every week for: ☐ One Year $6. ☐ Three Years $12.
☐ Payment Enclosed ☐ Bill Me ☐ Bill Company

Name.....

Company.....

Street.....

City..... Zone..... State.....

IMPORTANT: Company's Type of Business.....

- In Five Minutes -

You Can Fabricate Framed Permanent Filters ON THE JOB!

Any Size ½", 1" or 2" with

AIR-CON'S

Filter Fabrication Kit

A 10½x14x½" Costs 50¢

Contact Your Wholesaler OR

Air-Con® Filter Corporation

1127 S. Third Memphis 6, Tenn.

Filters and Fabrication Materials Warehoused in the West by

LITTRELL LINES, Inc.

3121 East Twelfth St.
Los Angeles 23, Calif.
ANgelus 1-0165

1325 Egbert Ave., near 3rd St.
San Francisco 24, Calif.
VAlencia 6-4777

THE MASTER SERVICE MANUALS - - -

— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast

BUSINESS NEWS PUBLISHING CO., DETROIT

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

SALES ENGINEER 18 years in heating and air conditioning. Capable of taking lead through design, take off, and closing. Residential and commercial background. Know all types of heating. Excellent background in water and air cooled equipment, packaged and built-up. Will relocate. $10,000-$15,000 category. GEORGE DAVIDSON, 211 Monohan Drive, Louisville 7, Ky.

IF YOU are a manufacturer in need of excellent representation in the Metropolitan N. Y. area let me hear from you. Have the personality, experience and contacts among the refrigeration wholesalers, OEM's and major contractors. Must be top quality product or products for the air conditioning or refrigeration industry. ROOM 3411, 233 Broadway, N. Y., N. Y.

PROJECT ENGINEER — Ten years total experience in the following areas: Hermetic compressor design—Production engineering—Cost reduction—Quality improvement. Desire position in hermetic compressor section of reputable refrigeration company. BOX A6552, Air Conditioning, Heating & Refrigeration News.

AGGRESSIVE AIR conditioning, refrigeration and heating mechanic. 23 years practical experience, 12 years engineering, designing and supervising on commercial and residential. Expert sheet metal layout, stainless, copper and piping. Middle age, sober, family man. Selling, supervising or work with tools with progressive company. Available early fall. References; Write BOX A6553, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

ATTENTION FIELD service men: Fedders Corporation has an opening for district service manager in Midwest region. Must have experience in central heating and cooling service, installation and application. Willing to relocate, if necessary. Submit your resume to: Sil Thompson, c/o FEDDERS CORPORATION, 58-30 Grand Avenue, Maspeth 78, New York.

APPLIANCE FIELD service representatives. Full line experience wanted, refrigeration experience especially desirable. Must be able to travel and relocate if necessary. General knowledge of appliance service business helpful. Very liberal benefit program and management bonus. Submit resume to E. E. Emerson, Corporate Personnel Office, WHIRLPOOL CORPORATION, St. Joseph, Michigan.

SALES ENGINEER: Develop sales to dealers of York Air Conditioning, Heating and Refrigeration Equipment. Western Michigan territory. Must locate in Grand Rapids. Experience required in application engineering of commercial air conditioning and in dealer sales. Aga 30/40 preferred. Handle sales and warehousing within established policies. Salary, commission, expenses and car. Apply by resume only. YORK-DETROIT WHOLESALERS, 14285 Wyoming Avenue, Detroit 38, Michigan.

EQUIPMENT WANTED

HIGHEST PRICES paid for new surplus refrigeration and air conditioning equipment or components thereof. Your list will receive immediate confidential service. No lot too small or too large—all terms to suit you. Write BOX ACN 449, 125 W. 41 St., N. Y. 36, N. Y.

EQUIPMENT FOR SALE

LONG ESTABLISHED manufacturer offers complete line of class "A" scientifically designed, smartly styled production dies with die shoes, springs, etc. for air circulator line; room air condition line, heater fan line and humidifier line. Further particulars, data or information relating to the above lines may be obtained by writing to BOX A6543, Air Conditioning, Heating & Refrigeration News.

TWO MODEL 3 L Chrysler Airtemp Radial condensing units with 10 h.p. 3 phase, 220 volt 60 cycle motors. One model 5 H Chrysler Airtemp Radial condensing unit with 25 h.p. 3 phase 220 volt 60 cycle motor. All three units have across-the-line Allen-Bradley magnetic starters. None have been in operation much over 2 years. All are in excellent condition. Will sell any or all of the three at very attractive prices. DELICIOUS FOODS COMPANY, 315 East Ann Street, Valdosta, Georgia.

YORK 6X6 ammonia compressor, 15 ton cap. Brine cooler and surge drums. 25 h.p. motor. Never connected, never used—all new except compressor, rebuilt by Burge Ice Machine Co. Our cost $3600.00 Will sacrifice $2200.00. HAHN-ZAROV CHEMICAL CO., 5217 Lake Street, Melrose Pk., Illinois. Filmore 3-1006.

ATTENTION REFRIGERATION Servicemen: Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

AIR CONDITIONING, heating,—ventilating business for sale; Detroit area. Owner retiring. Old reputable contract and service business, commercial and industrial. Attractive terms to qualified buyer. Unusual opportunity. Samuel B. Keene, Attorney, 2320 Guardian Bldg., WO 1-0775.

NAPC-AGC Brochure Hassle--

(Continued from Page 1, Col. 3)

Burns; Separate Contracts Booklet 'Hit Generals Where It Hurts,' Rechkemmer says."

In its release, the NAPC said that its brochure "has struck a tender spot in the hide" of the AGC, "it was apparent . . . with the publication of a two-page all-out attack in the AGC's house organ 'The Constructor,' May issue." The NAPC announcement continued:

Discounting the AGC attack as "even better than we expected," NAPC President Irvin L. Rechkemmer gleefully added, "the booklet must have hit them where it hurts the most!"

The brochure, intended as the first definitive analysis of the advantages of the separate contract system, has been widely circulated among legislators, architects, engineers, and other segments of the construction industry since its publication two months ago, NAPC pointed out, adding: "It has been the cause of considerable comment and controversy in official association circles in the construction industry since that date.

Rechkemmer Comments On AGC Contentions

Rechkemmer then gave a point-by-point analysis of a blast at the brochure issued by AGC President John A. Volpe. Volpe said that NAPC had "aligned itself with the enemies of contract construction."

Rechkemmer's comment: "Nothing could be further from the truth. NAPC solidly endorses the contract method of construction, believes passionately in the separate contract principle. The booklet favors contracting by contractors, however, instead of brokers."

Volpe called the book "grossly misleading, inaccurate and overdrawn, and presents a totally distorted picture of conditions within the construction industry."

Rechkemmer's comment: "Ridiculous. NAPC scrupulously selected projects only when they had been openly bid both as single contract projects and as multiple bid projects. No fairer comparison of bid records could be made. Even allowing for the standard AIA 'overseer' fee of 4% where separate contracts are used, there is still an average savings of 3.5%.

Charges Council Is Captive of AGC

Volpe criticized NAPC for not joining the Council of Mechanical Special Contracting Industries, which he said was working constructively with AGC to seek positive industry problem solutions, including a procedure for the receipt and handling of sub-bids.

Volpe also said NECA has approved this procedure and that MCAA and the Sheet Metal and Air Conditioning Contractors National Association "are expected to approve it at their conventions."

Rechkemmer's comment: "NAPC has not and will not join the council because it is the captive of AGC. The Council and AGC have stood together in support of legislation firmly endorsing the single contract principle, a position which NAPC feels is a betrayal of every mechanical contractor's independence and of the separate contracts laws in states, which are constantly under harassment from AGC."

Continuing, the NAPC press release stated:

"Regarding the so-called bidding procedure jointly developed by CMSCI and AGC, Volpe neglected to mention that AGC itself did not firmly endorse this proposal, because of convention opposition to the measure as written. Contrary to Volpe's prediction, MCA quietly buried this controversial procedure at its pre-convention board meeting, did not even submit it for a vote because of rank and file criticism."

Further, Rechkemmer commented, the mechanical contracting organizations in the Council do not have solid support of their respective membership for their consistent endorsement of the single contract method. NECA chapter members in Illinois, for example, helped other mechanical contracting organizations, including NAPC, to pass a separate contracts law in Illinois last fall, September, 1959, he said.

NECA chapters in many other states are known to favor separate contract procedure wherever possible, according to Rechkemmer. They do in fact practice this in the seven states where it is required by law and in other states where it is standard procedure, he stated. Nor do they seek to oppose these state laws when AGC raises the issue at the state legislature level, he said.

Volpe also claimed NAPC's leadership "has consistently rejected cooperation with other industry organizations."

Rechkemmer's comment: "Not true. NAPC has worked together with many national, state, and local organizations in carrying out constructive programs in the construction field.

"It spearheaded an informal group of building industry associations which successfully negotiated, in one meeting with the American Institute of Architects, a long sought improvement in retained percentage procedures and practices, which has since been endorsed by the AIA board of directors. This procedure calls for a standard 10% retainage until 50% of the job is completed, and no additional retainage for the balance of the job.

"The CMSCI proceeded unilaterally on this measure, got nowhere. NAPC, in concert with 19 other industry groups, got the job done—and quickly. NAPC also has extensive support from construction industry sources on its position regarding bid shopping and separate contracts."

Rechkemmer wound up his rebuttal by challenging AGC to prove its contention that the single contract system produces lower cost, better quality, or other of its claims.

The NAPC president added that in addition to the booklet's value at the state and local level to many state and local associations in the mechanical contracting field, there is considerable merit in stimulating discussion of the separate contract principle by other groups, "which has been suppressed by the vested interest of the single contract method proponents."

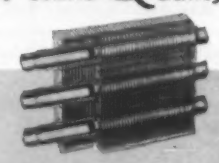
NAPC also reported that the Construction Specifications Institute, at its recent annual convention in Palo Alto, Calif., voted to study the public relations impact of NAPC's separate contracts brochure.

the very best
McQuay
RADIAL UNIT COOLERS
NOW IN
ALUMINUM CABINETS
The New McQuay Radial Unit Cooler—Eight compact aluminum cabinet models ranging from 2,600 to 14,000 Btu/hr at 10° T.D. All have the newly designed hinged aluminum drain pan for easy installation and maintenance.

for **LONGER LIFE**
LIGHTER WEIGHT
BETTER PERFORMANCE

The new line of McQuay aluminum cabinet radial unit coolers is not just the best—it's the very best! You not only get longer life, but aluminum construction means a more attractive appearance and more ease of handling as well. The new hinged drain pan is a standard feature and all McQuay radial unit coolers are supplied with the famous McQuay Ripple-Fin coils which incorporate "Tube within a tube" heat exchangers without additional cost. For the very best radial unit coolers in every way, use McQuay. See the McQuay wholesaler in or near your city, or write McQuay, Inc., 1607 Broadway Street N.E., Minneapolis 13, Minnesota.

McQuay Means Quality



McQuay units feature the exclusive Ripple-Fin coils which create maximum turbulence and have wide, full fin collars that act as automatic spacers to form a tube around the coil tube for positive, permanent bond, greatest heat transfer and protection.

McQuay INC.

MAKE THE SEASONS COME TO YOU

AIR CONDITIONING • HEATING • REFRIGERATION